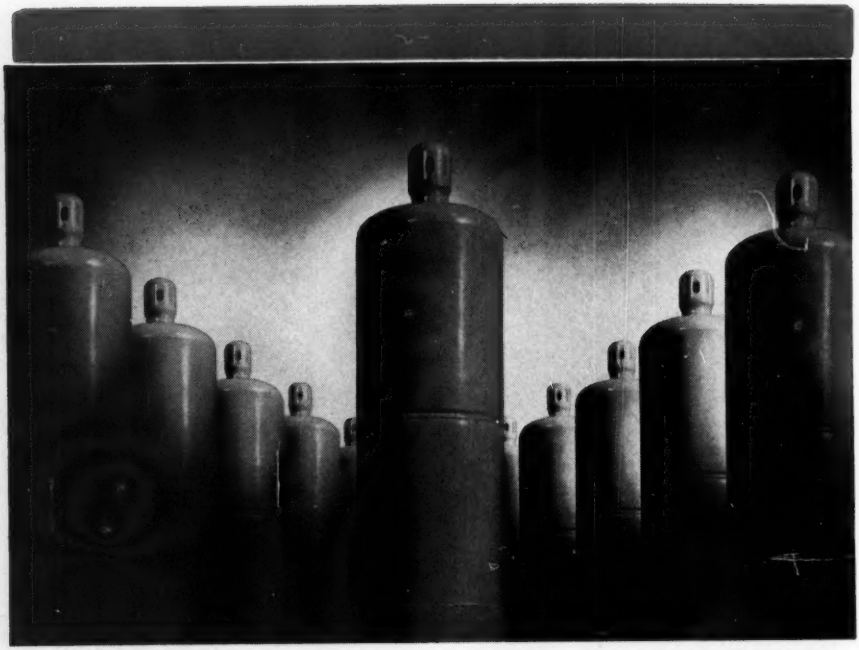
BUTANE-PROPANE News

No. 5 OCTOBER 1939 25c

IN THIS ISSUE



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Containers for Gases, Liquids and Solids

Volume 1
Number 5

BUTANE-PROPANE News

OCTOBER
1939

Contents for October, 1939

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LETTERS

BUTANE-PROPANE *News* welcomes communications from those identified with the liquefied petroleum gas industry, but readers will understand that this magazine does not necessarily concur in the personal opinions so expressed.—Editor.

Gentlemen:

I have heard that the next Southern Section meeting of the L. P. G. A. may be held at Jackson, Miss. If it is, we are going to do our part to make it a success. We have a very beautiful and hospitable city and in our opinion a better selection could not be made.

Personally, I feel that the different conventions the liquefied petroleum gas dealers have had at different places in the last two or three years have created a better feeling among those interested in the industry and will bring about a more concerted effort to make clean sales and eventually eliminate the fly-by-nights who have, to some extent, created a bad impression in regard to the butane gas business.

This business is going to continue to grow and will, within the next few years, be the only method used in heating and cooking or for anything that gas is required to do "beyond the mains."

There will be changes in the business from time to time. It is growing too fast to be otherwise. The dealer who attempts to employ the "get-rich-quick" method will soon find himself out of the game, but the man who employs honest, energetic policies and will give dependable, satisfactory service, and make good installations, may expect to earn a fair margin of profit and enjoy the growth of a healthy business.

JOHN T. DOCKERY

Dockson Gas, Inc.
Jackson, Mississippi

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Gentlemen:

Will you please send us a list of firms manufacturing burners for use with propane gas that we may contact them and have their catalogs forwarded?

RALPH R. RHODES

Rural Gas Company
Williamsport, Pennsylvania

Among our advertisers are names of firms that will assist you.—Ed.

•

Gentlemen:

As you perhaps know, the butane actual distribution and service will not make a lot of progress until we can disassociate ourselves from the appliance and equipment men at conventions. As you know, the A. G. A. has a separate technical section where one can learn something at a convention. The appliance people, of course, want to sell appliances. I doubt if more than a very small percentage of the men now engaged in butane distribution have any idea that it is service they are selling and not a get-rich-quick game that can be abandoned at will, even if the question of abandonment ever entered their mind. And that accounts for the "shoe-strings." You are doing a worth-while work in your publication in warnings about under-capitalzation,, but I happen to know that a good deal of high pressure has been used in the selling of underground systems, for example, to men who had not the faintest idea of what they were entering, and it has not yet entered some of their minds that there is a responsibility to serve with every sale, and what I had thought would be a fine opportunity for a little fellow to establish himself, I am fearful will result in the end in big oil companies doing the distributing in order to protect the industry. Like the boy who tied one end of a rope to himself, the other end held a yearling, and the yearling got scared. The yearling "went places."

E. ROY TAYLOR

Georgia Automatic Gas Company
Atlanta, Georgia

•

Gentlemen:

Your new Butane-Propane *News* is swell. One article alone in the first issue was worth the subscription. I hope it finds its way into the hands of all bottled gas dealers. I like the size of it, too!

If I can be of any assistance to you out here, don't hesitate to ask for it. Best of luck.

DONALD K. MONIER

P. S.: Next time — a Republican.
Chester Depot, Vermont

P. S.: As goes Vermont, so goes Butane-Propane *News.*—Ed.

•

Gentlemen:

We have found Butane-Propane *News* very interesting, and have enjoyed reading it from cover to cover.

HERMANN PARIS

President
Georgia Butane Gas Company
Sandersville, Georgia

•

Gentlemen:

I want to compliment you on the new magazine, the Butane-Propane *News*. It is just what the bottled gas business needs to mould it into an industry.

ALFORD WAMSER

Fredericktown, Missouri

Soon They Will Be Yours

Last month Butane-Propane *News* announced that it was preparing reprints of the "A B C of L. P. G.", an article published in our June issue dealing with elementary data on the industry. Requests for more than 20,000 copies have been received. These will be mailed this week.

MAINLY BEYOND THE MAINS

WATER SOFTENERS

And why wouldn't a good line of water-softeners be right down our alley? A hard water condition is death on the efficiency of an automatic storage water heater, and even more so on coil heaters. Liming, which is the precipitation of calcium in hard water, occurs when hard water is heated above a certain temperature. Accordingly, in a storage water heater, the liming occurs most at the point of flame application, and the efficiency of heat transfer is seriously impaired. In coil heaters, the lime chokes the tubing and a highly dangerous condition can be innocently created. A water-softener in the home removes all the handicaps of gas hard water heating.

It deserves our serious consideration as a practical door-opener to a load we can never enjoy without it.

NAME PLEASE

We agree. "Bottled" gas was a misnomer. We outgrew "bottled" years ago. A more truly descriptive name was necessary and it was good business to apply it before Mr. and Mrs. John Q. Public had us permanently labeled "bottled." But when the best we could do was label it "Liquefied Petroleum" gas, we wonder if we were being merely technical or simply didn't give a damn. Or whether we felt a well identified trade-name would be ample.

Have you ever tried talking to a layman, a potential customer, about "Liquefied Petroleum" gas? First, the confusing thought hits him, "How can it be liquefied (a liquid) and a gas at the same time?" It is rather perplexing at that. Then the word "petroleum" stumps him. The editorial dictionary defines "petroleum" as "mineral oil found in rocks or on surface of water, used for illumination and mechanical power." And that's just about what "petroleum" means to the layman. He thinks it is some kind of a stove oil or kerosene with a fancy moniker to build it up.

Consequently, with such a misleading name, we are barred from using it in our consumer advertising and sales promotional literature. To talk about "propane" or "butane" to the general public is equally futile. We know one enthusiast who invariably airs his technical knowledge by calling it, in all seriousness, "profane" gas.

And yet, here we are, a definitely established branch of the gas industry, our stature growing daily, and we haven't an identifying label that registers with the public. The other branches are self-explanatory. "Manufactured" gas shows that raw solids are converted into a combustible gas at a plant designed for that purpose. "Natural" gas comes out of wells in the ground. Maybe that's our pattern. Then the public talks of "city" gas, whether it be natural or manufactured, and seeing most of our customers are beyond the mains, could we popularize "rural" gas? Or — well! Surely there cannot help but be a better name than L. P.

We would appreciate your suggestions, for we seriously feel that we urgently need that better label.

AIR CONDITIONING

While we are talking about the endless possibilities of gas in modern life, there is this very pertinent subject of air conditioning, which is far more comprehensive than chilling air in summertime or sticking a fan in an air duct. Real air conditioning means exactly what it says, that is, making the condition of the air healthier and more comfortable for those who breathe it. In summertime it may be the excessive humidity rather than the temperature that is doing the damage and causing the discomfort. In wintertime, the reverse may be true and a lack of humidity directly responsible for the nasal irritations — ticklish throats and stuffy noses. Real air conditioning controls temperature, relative humidity, and filtered purity both winter and summer and under all weather conditions. Partial air conditioning provides some but not all of these factors. Hence the terms winter air conditioning and summer air conditioning. For example, in summer when excessive humidity is the villain, the heart of a good summer air conditioner is its ability to dehumidify. Without changing the temperature, you can reduce the moisture content and definitely feel cooler. There is gas equipment that does this remarkably well. The moist air is completely dehumidified by passing it through beds of adsorbent materials (silica gel, activated aluminum, etc.) and then gas heat is applied to drive the heat out of the adsorbent. In some of the gas systems the air is so completely dehumidified that it is necessary to add moisture to obtain a proper relative humidity, for too dry air is just as injurious as too moist. In wintertime, the gas air conditioning system can function as a heating plant. Therefore, the flexibility of gas makes it especially adaptable to air conditioning, and if the little dickey bird that whispers things in the editorial ear isn't fooling us, we anticipate seeing several more of our manufacturers with gas air conditioning equipment available soon. And the sooner the better for everyone.

Railroading with L.P.G.

Streamliner "City of Salina" Adopts Butane For Speed and Economy on 520-Mile Daily Run

By C. L. PARKHILL

Vice President, Parkhill-Wade, Los Angeles

WHEN the Union Pacific first announced the building of the "City of Salina," it began the writing of a whole new chapter in railroading history, for this train, known also as the "M-10,000," is the daddy of all the streamliners. Originally powered by a gasoline engine which also had a carburetor adapted for burning distillate, its power plant was converted to operate solely on gasoline in August, 1938, with the decision to convert for use of butane as fuel following shortly thereafter.

C. L. PARKHILL

While railroads have used butane for refrigeration and air conditioning, and while some have used it to power motor rail coaches, this is the first time in railroad history in which butane is used to fuel a full-length passenger train operating on a regular scheduled daily run.

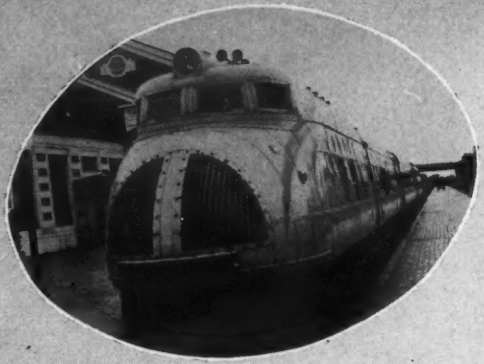
A variety of reasons influenced Union Pacific's decision to fuel this train with butane. These were, first, availability of a large supply of the fuel; second, a desire to engage in an experiment to determine the adaptability of the fuel in scheduled train runs for engines in the 200- to 600-hp. range; and, third, to determine the fuel's adaptability to Union Pacific's other operations such as motor rail coaches, switch engines and local passenger trains.

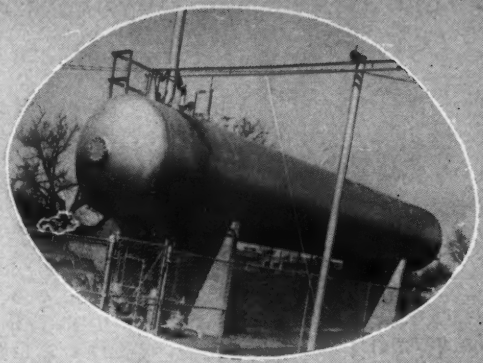
While it is yet too early to determine all the advantages resulting from the changeover to butane, several highly important gains have already appeared. These are:

1. A comparison of fuel consumption for one month's operation as against the fuel consumption in the same month of the previous year shows a 13 per cent saving in fuel costs.

2. A tremendous saving in lubricating oil consumption, only 200 gals. of lube oil being consumed in one month as against 1100 gals. of lube oil consumed in the same month of the previous year.

3. Increased lubrication efficiency and lower engine maintenance costs are indicated by the low lube oil con-





sumption. This is directly due to the fact that butane completely vaporizes; consequently there is no condensate to "wash" cylinder walls and dilute the oil in the crankcase.

4. Smoother engine operation. This is particularly noticeable in acceleration. Formerly it was necessary to "jockey" the throttle full open and keep it open for a considerable distance after leaving the station in order to obtain the desired speed. With butane, the throttle is opened full at the start and it can be cut back almost immediately to one-half or one-quarter open, depending upon speed desired.

5. Foul exhaust odors eliminated.

The conversion of the engine was done in Union Pacific shops. Parkhill-Wade, consulting and construction engineers of Los Angeles, designed and installed the power car fuel tanks, the bulk storage fuel tank and the metering and dispensing equipment.

The power plant of the "City of Salina" is a Winton V-type, 12-cylinder, 600-hp. engine. In the conversion process, the engine was removed from the power car and completely torn down and rebuilt, the valves ground and new cylinder sleeves and piston rings installed. In order to increase the engine's compression ratio, the height of the pistons was increased, which changed the ratio from 4.5:1 to 5.25:1. New Ensign carburetors and a common manifold for each bank of cylinders was installed. These were substituted for the 12 individual cylinder carburetors formerly employed. Individual vaporizers, pressure regulators and fuel strainers were installed for each of the two cylinder banks.

The lines from the fuel tanks to the engine are so constructed that both banks of the engine can be fueled from either of the two fuel tanks or each bank of the engine can be fueled from a separate tank. The fuel tanks have a capacity of 275 gals. each. Each tank is 28 ft. 3 in. long by 16 in. O. D. and they are designed for an A. S. M. E. code working pressure of 250 lbs. per sq. in. These tanks are installed in the belly of the power car with one on each side of the center stringer. Tank filling inlets and fitting valves are located at the head end of each tank.

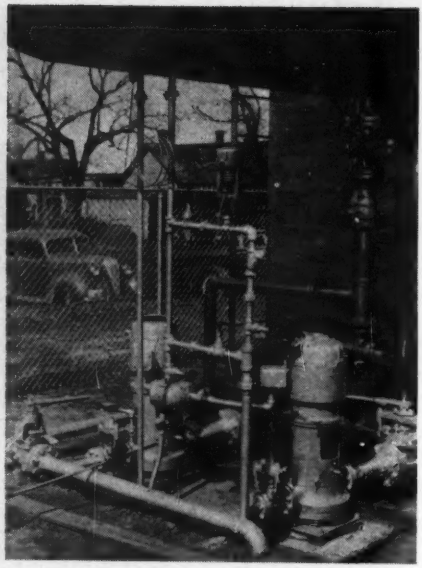
Fuel Pumps Unnecessary

The advantage of butane, in connection with supply of fuel from the tanks to the engine, is found in the fact that the inherent pressure of the fuel in the tanks eliminates the necessity for fuel pumps which are a major item of maintenance in other operations.

The tank filling inlets and filling valves consist of a Parkhill-Wade automatic filling valve, a liquid utilization valve, a vapor utility valve and a safety valve. Adjacent to the liquid utility valve, an emergency shut-off valve is installed. This valve may be operated from either filling nacelle or from the engine room. Thus, in case of any emergency, the fuel tanks may be shut off from any one of three places by a single jerk of the control wires. All fuel line valves on the tanks are equipped with excess flow check valves which will automatically shut off the fuel in event of a broken fuel line.

The Winton engine is direct con-

PHOTO (opposite page): U. P.'s streamliner. INSETS: Train's engine, and storage tank.



View showing dual pump unit for loading and unloading at same time.

nected to a 600-ampere, direct current generator which supplies power to the four electric traction motors located on, and driving, the power trucks.

A bulk fuel storage tank has a capacity of 18,000 gals., net, and it is designed for a 200-lb. A. S. M. E. code working pressure. This tank is a horizontal type, 8 ft. O. D. by 52 ft. long, set on concrete piers 6 ft. aboveground. The tank is located 30 ft. back of the berth spur at the west end of the Salina shop area.

The storage tank is equipped with adequate safety valves consisting of two 4-in. A. C. F. valves to guard against over-filling or excess pressure developing from external sources. All tanks outlets are equipped with excess flow check valves so that the butane will not be emptied from the storage tank in case of a broken line. All fittings are grouped in one area on top of the tank and a railed platform, reached from the ground by a ladder, surrounds the entire area so that the fittings can be easily reached.

Directly under the tank at a point nearest the track, two Byron-Jackson hydropress pumps are installed. These pumps are capable of 50 gals. per minute and each is powered with a 5-hp. explosion-proof electric motor. Each pump is so manifolded that it can be used for storage tank loading or refueling the train. The storage tank and pumps are enclosed in a woven wire fence, 6 ft. high, which completely surrounds the installation to prevent tampering by unauthorized persons.

The metering device and pump controls are located adjacent to the berth spur at the point where the power car is spotted for nightly refueling. The metering device consists of a specially designed Smith meter integral with a Parkhill-Wade vapor eliminator which removes all vapor from the metering apparatus so that positive liquid metering will be assured.

Safety Controls

Installed adjacent to the metering device is a Parkhill-Wade safety control. This consists of a single lever which, when raised, first operates the pump starter switch and then opens the main control valve allowing fuel to pass through the meter to the train fuel tank being filled. If, for any reason, the operator releases this control handle, it is so weighted that it will first shut off the main control valve

and then disengage the pump starter switch, thus making it impossible for the operator to leave close proximity of the metering controls during filling operations without the entire filling circuit closing down.

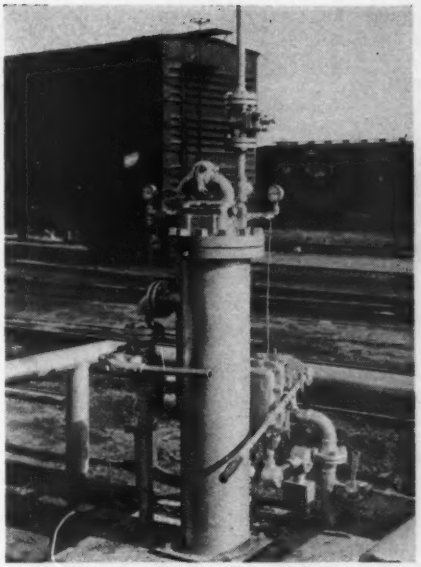
The metering and filling control apparatus is enclosed within a heavy pipe guard rail for collision protection.

Precision Metering

The fueling circuit has been clocked at 50 gals. per minute in loading the train and 70 gals. per minute when fuel is being transferred from the delivering tank car into the bulk fuel storage tank. The metering device is so hooked into the line between the tank car unloading spot to the storage tank that all butane delivered to the storage tank may be metered with precision.

The train fueling lines are run underground from the metering device, one to each side of the train, and fueling hoses are stored in boxes flush with the ground parallel with and adjacent to the tracks. Each hose is equipped with a filling nozzle designed to work in conjunction with the tank filling valve. The operation of engaging or disengaging the filling nozzle requires only about 10 seconds.

The tank car unloading spot is located 50 ft. down-track from the metering device and ahead of the train so that the delivering tank car and the train may both occupy the spur in their proper positions simultaneously. Unloading hoses and lines are suspended overhead from an angle-iron structure approximately 15 ft. high to facilitate transfer of fuel from the delivering tank into the bulk storage.



View of metering hook-up and filling device, showing safety control handle.

The interconnecting piping is so arranged that the train may be fueled from either the bulk storage tank or from the delivering tank car independently, or both operations of fueling the train and loading the bulk storage tank may be done simultaneously.

Union Pacific officials in charge of operations were O. Jabelmann, vice president in charge of research and mechanical standards; B. H. Prater, chief engineer; J. W. Burnett, general superintendent of motive power; and C. M. Beard, supervisor of motor cars.

The "City of Salina" is in daily scheduled operation, making the run from Salina, Kan., to Kansas City, Mo., to Topeka, Kan., and return to Salina, the total mileage of the daily trip being 520 miles.

Tank Retesting

By A. N. KERR

President, Imperial Gas Co., Los Angeles

WE had been shipping Rockgas for many years before the full force and effect of the five-year test came home to us. We had read a statement on page 257 of the second edition of *Handbook Butane-Propane Gases* to the effect that cost of withdrawing the tanks from service, shipping them, and having the test made would run about one-half cent per pound for all gas used during the five years. It was assumed that the customer used 400 lbs. per year.

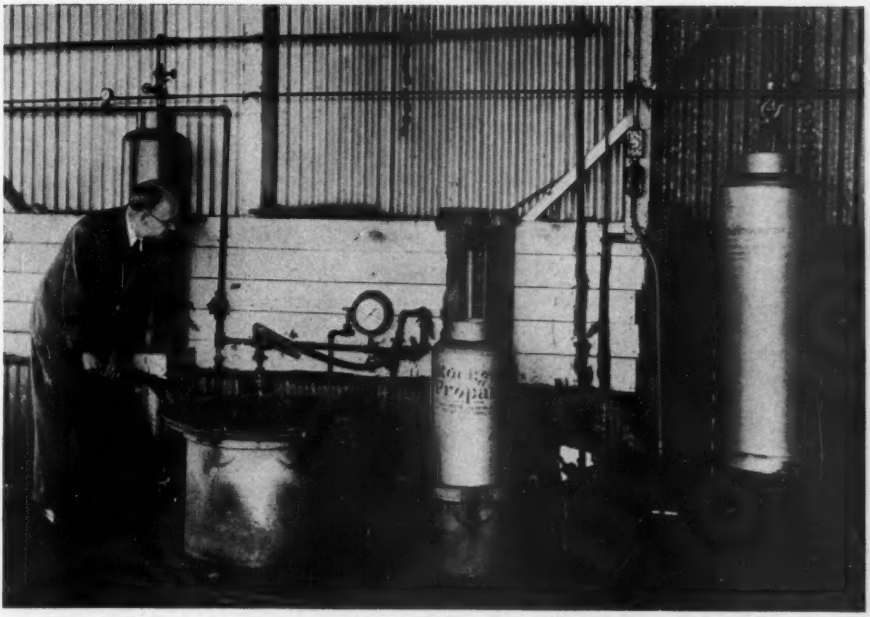
A. N. KERR

Our own figures told us that this estimate was not very wrong. We built our own retesting plant for use with approximately 30,000 cylinders. The plant cost about $2500. It would have cost more in any other climate. The plant requires most of one man's time. Our costs for retesting will run over $2000 per year if upkeep of the plant and its depreciation are included. If we include the 106 tanks rejected since testing began, the cost for testing and rejecting will run $3000 per year. To date, we have tested 8000 tanks and find that the I. C. C. test is, to say the least, quite searching. It discards all tanks in which poor steel was incorporated. Because of shipping interstate we must conform to the I. C. C. regulations.

Retesting must be done in a sheltered place as the results are upset by temperature changes due to the hot sun. Therefore, a building of considerable size is necessary, especially as a large platform is required for holding truck loads of cylinders. In addition to the plant shown in the accompanying photographs, heavy hammers, dies, and filing cabinets for records are required. Records often must be sent to the Bureau of Explosives, 30 Vesey Street, New York, and inasmuch as these records are a legal requirement, they must be absolutely right. Owing to the fact that cylinder numbers become defaced, a good deal of time is spent in straightening out numbers, as our records must not show two tanks of the same number.

The cylinders are inserted in the open-top tanks shown. The covers are then bolted on. The larger one is for the 20x44-in. size, which holds 210 lbs. of propane. The smaller size is for the 12x42-in. cylinder, holding 65 lbs. of propane. Intermediate sizes may, of course, be tested in these displacement tanks.

The expansion of the cylinder is read in the graduated pipettes. Pres-



Retesting plant of Imperial Gas Co., of Los Angeles, where L. P. G. cylinders are checked. With an average of 20 bottles per day, 300 days per year, it will require five years continuous work to test the company's 30,000 cylinders — and then they will have to start all over again! A. N. Kerr, president of the company, is preparing to subject one cylinder to rigid examination in the above photograph.

sures as high as 520 lbs. are applied by the hand pump. About 1 to 2 per cent of the 12-year-old tanks will have been dinged or man-handled so that they will not fully comply with the test. A rotary water pump driven by a motor returns the water to an overhead tank. The inverted cylinder which appears in the photograph just above the pump serves as an air chamber so that very little pumping is required for each cylinder. One man can test 20 to 30 small cylinders per day and from 10 to 15 larger tanks, providing the cylinders are not troublesome. Our testing is done by J. Sterling Parr, who has been in our employ for several years. The plant is regularly inspected by O. D. A. Pease of the Bureau of Explosives, San Francisco. A cylinder which does not pass the test is withdrawn from service or reannealed. The work is very important because, should any cylinder be the cause of difficulty, the Bureau of Explosives immediately checks its records and frequently inspects damaged cylinders with the thought of eliminating defective design. Such care and regulation are of inestimable value as safeguards for all connected with the liquefied petroleum gas industry.

Drying Garlic

By H. P. SMITH
Chief, Division of Agricultural Engineering,
Texas Agricultural Experiment Station,
Agricultural and Mechanical
College of Texas

FOR a number of years garlic growers in Fayette, Lavaca, Gonzales, and Colorado counties have suffered considerable losses due to the spoilage of garlic caused by the soft rot organism at the time of harvest. Because of these severe losses, the Texas Agricultural Experiment Station began work in 1936 to determine the cause of the spoilage and to find remedies that would enable growers to harvest and market the garlic crop.

A number of new varieties were introduced to determine whether or not some of them were resistant to the soft rot organism. Tests were made to determine whether seed piece or clove disinfection would control the disease. Various chemicals used as dips or dust were applied to the cloves before planting. The time of harvest and the method of harvesting and handling of the garlic are being studied to ascertain their influence on the control of diseases causing soft rot.

In addition to these studies, an experimental drier was erected at Moulton to study the effects of applying artificial heat to the bulbs in an effort to control the disease. In 1936 and 1937 the source of heat was a portable blowtorch burner. This type of burner had to be closely watched and regulated to prevent a wide fluctuation in the temperature. The burner required such close attention and the temperature fluctuated so much that in 1938, through the cooperation of R. L. Edwards of San Antonio, distributor, a hydro-gas plant, burning liquefied petroleum gas, was installed to furnish heat for the drying of garlic. This equipment has enabled us to maintain a more uniform and constant temperature for long periods of time with minimum attention.

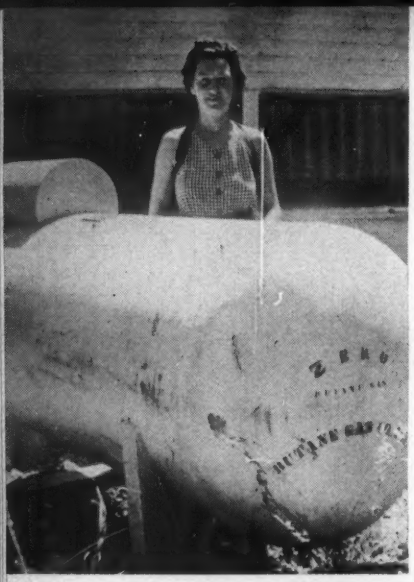
In handling the garlic the general procedure used was to remove the garlic from the soil and cut off the tops, leaving 1½ or 2 in. of stems with the bulbs. The bulbs were then carried to the drier, weighed, and placed on trays in a 3-ft. vertical chute. The trays were supported in the chute by lugs on chains in each corner. This permitted the garlic to be lowered as additional trays were placed in the chute until the chute was full of trays and garlic.

A full charge of garlic consisted of from 1000 to 1200 lbs. Experiments were conducted in drying garlic ranging from 10 to 24 hours and at temperatures ranging from 115° F. to 170° F. The optimum temperature appears to fall between 120° and 130° F. Garlic subject to temperatures much higher than 130° F. for periods long

G. E. Alstatt inspects the garlic on the lower platform while M. H. Byrom checks the temperature of the outgoing air on the top platform. Thermometer to record the temperature of the ingoing air is at the lower right. The Hydro-Gas tank is located outside the limits of the picture on the right, and the furnace is inside the sheet iron room. Furnace vent extends above roof.

enough to dry the stems would have a tendency to slightly cook the garlic and cause it to decay. Ordinarily the garlic was kept in the drier until the stems on the bulbs were thoroughly dry, as they would be under natural conditions. After the garlic was thoroughly dried, it was removed from the trays and weighed again. The difference in the pre-drying and after-drying weights enabled us to determine the percentage of moisture lost in the drying process. The loss of moisture ranged from 7 to 15 per cent, depending on the maturity of the garlic at the time of harvest.

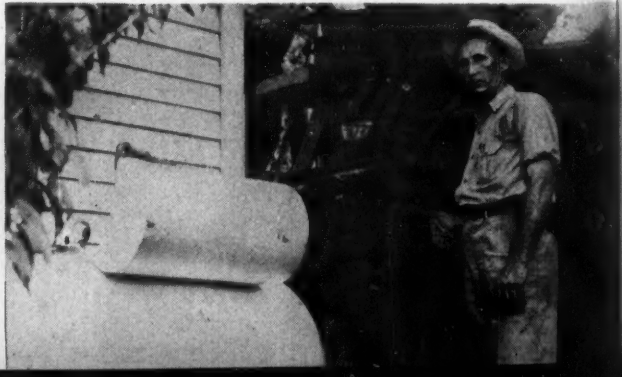
With an artificial drier garlic can be dried sufficiently to permit shipment much sooner than under ordinary farm curing practices, which, depending upon the maturity of the crop at harvest time, require 10 to 15 days.



AT LEFT: Estelle Weaver, manager of the Lake Lucerne resort, standing behind the camp's 250-gal. butane plant.

BELOW: The office and cafe at Mount-Air Camp, in the Ozark mountains, modernized by butane for cooking, heating.

AT RIGHT: B. L. Allen, of the Liquefied Gas Co. of Fort Smith and Fayetteville, Ark., is shown refueling the tank located at Camp Joy. Barely discernible in the picture is the tank truck from which fuel is being drawn.



Butane in the Ozarks

THE value of the rural gasification program that is being carried out by the liquefied petroleum gas industry is well exemplified by its adaptation to, and installations made, in summer camps and out-of-the-way resorts where, without butane and propane gases, resort owners and visitors would still be burning coal or wood or oil. An excellent illustration of what this may mean to a locality is found at Eureka Springs in the heart of the Ozark mountains. There three of the principal camps are equipped with butane for cooking and water heating purposes. These are Camp Joy, Mount-Air Camp and Lake Lucerne Hotel and Camp.

Mrs. Roy Freeman, co-manager with Mr. Freeman of Camp Joy, said that so few of her visitors could cook with oil that she found herself practically cooking meals for them during the period her cabins were equipped with oil cook stoves.

The visitors didn't know how to light the stoves. The stoves smoked and one visitor almost burned up a cabin, she said, so inexperienced were they in cooking by such old-fashioned methods.

Now each of the 14 cabins at Camp Joy is equipped with a two-burner gas hot plate served with fuel from a 250-gal. National Zero above-ground tank. Three 30-gal. storage hot water heaters provide hot water for the cabins. Mrs. Freeman states that her gas bill amounts to approximately $20 per month and the work is greatly reduced.

Mount-Air Camp, located just across the road from Camp Joy, is owned and operated by R. C. Barbee. At this camp 30 of the 40 cabins are piped for butane. Four remotely located cabins are served from butane cylinders. The others are supplied from a 450-gal. above-ground tank system. The camp cafe is also piped for butane.

Former Arkansas State Senator R. R. Thompson owns and operates the Lake Lucerne resort, also located on the outskirts of Eureka Springs. Seven cabins at this resort are equipped with standard size gas ranges fueled from a 250-gal. above-ground butane system. Lake Lucerne Hotel, a part of this resort, extends out over the lake. The water heating system of the hotel is fueled by gas, as is also the coffee urn in the hotel dining room. This is the first season that this resort has operated on butane. As yet the hotel cooking load is on electricity. One hundred people at a time can be accommodated at Lake Lucerne. Estelle Weaver is manager of the resort.

Although some of the camps maintain year-around accommodations, they all run practically at peak capacity during the months of June, July and August.

The Liquefied Gas Co. of Fort Smith and Fayetteville, Ark., operated by B. L. Allen, is the fuel purveyor and butane system distributor servicing these three installations and many others in northwest Arkansas.

Founding the L.P.G.A.

By MARK ANTON

First President, Liquefied Petroleum Gas Association

IN October, 1929, and again in the same month of 1930 the writer attended the American Gas Association convention at Atlantic City, N. J. Like many before and since that time we had started in the business of selling propane armed solely with an irreducible minimum of knowledge of sales and operating problems of the business, much less the correct answers to them. To the newer members of the liquefied petroleum gas industry it may seem inconceivable that there was any such dirth of knowledge as we old-timers now contend existed in the early days.

MARK ANTON

These early Atlantic City excursions can really be called "Quests for Knowledge." Truly, it was thought that at these conventions the answers to many of our problems would be readily available—there for the asking. It was hoped that this was the place to confirm or contradict hearsay. The industry was rife with stories of accomplishments, progress and plans of those already engaged in the business of selling propane and butane.

With all due acknowledgment to the present-day fine co-operative attitude of the American Gas Association and the manufacturers of appliances and equipment, it must be said that in the years around 1929 there was a definite feeling of non-interest, distrust and in some cases outright disparagement of this self-alleged relative of the time-honored gas industry. Today the position of the utilities can be easily understood, for we had yet to prove whether the type of service we were offering was to be supplementary or competitive to theirs. The attitude of equipment and appliance manufacturers (with one or two notable exceptions), all of whom it happily can be reported are leaders and friends of our industry today, had either taken a "flier" in the so-called bottled gas business, and had been burned, or had investigated it and in their wisdom decided that this was just another flash in the pan. The feeling even among those in the bottled gas business, who were not competitive then from an operating territory standpoint, was just as inexcusable.

It was in this atmosphere of ignorance and spirit of distrust that the idea of a trade association for our industry was born. As the writer stated at the Oklahoma City convention of

the L. P. G.A., and will reiterate here for emphasis, the need of a trade association in the industry was so urgent that had he not openly expressed the necessity at that time and taken the initiative in forming one, somebody else more than likely would have done so in the then immediate future.

Unpredictable Child

A chance discussion of the stepmother attitude of the gas industry at that time towards the bottled gas business brought forth a dinner table discussion with George G. Oberfell, who was recognized then, as today, as an outstanding liquefied petroleum gas man from the standpoint of research, manufacturing and distribution. The ultimate benefit of a trade association was readily acknowledged, but Mr. Oberfell frankly stated that someone would have to assume the responsibility of coddling and humoring an unpredictable child who might become a squawling, squawking brat. That the writer blithely took this responsibility is his satisfaction today.

In the spring of 1931 letters were sent out to those operators in the industry whom we had met on our previous journeys to Atlantic City. The need of a trade association, its aims and possible accomplishments were set forth and a sort of letter-writing round table discussion was held. The feeling was general that an effort should be made to get such an organization started and, therefore, about a month prior to the October, 1931, A. G. A. convention we issued a general invitation to every known member of the industry, stating that there had been an expressed desire for the formation of a trade association and that a meeting would be held at the Traymore Hotel for a further discussion of such a plan. The attendance was heartening. Delegates—large and small, from near and far—attended and openly expressed their views. It was felt that production problems were limited in scope, and also as to the number of those they affected, and therefore these would not be a primary function of the association. In an industry that had seen a 314 per cent sales jump in the year 1928, 119 per cent in 1929, and 81 per cent in the first year of the depression, it was recognized that haphazard sales policies might become accepted standards that would hobble the industry in later years. It was stated that it was to the public's interest when purchasing this new fuel to be assured of a continous supply, hazardless operation and the industry's interest.

Regulation From Within

The trade practice of selling fuel under contract to the subscriber, which arose from the necessity of the supplier guaranteeing to the consumer a maximum so as to induce him to accept this new fuel, was standard even at that time throughout the industry. It was discussed quite frankly in this first meeting that while the sanctity of these contracts could be upheld through court procedure, they could be better regulated by voluntary recognition of them by the members of the industry. It was conceded that with a new commodity where there was no monopoly (patent or otherwise), either in manufacture or distribution, that all opera-

J. W. MARTIN

tors handling that commodity had a unity of interest in advertising, merchandising, credit practices, safe handling, efficient use by consumer and intelligent supervision by both governmental and commercial agencies. With these aims possible of accomplishment through cooperative action in a trade association, it was unanimously determined at this meeting that a permanent body should be formed and a temporary organization was effected.

The first officers of the association were: Mark Anton, Suburban Gas Co., Verona, N. J., president; Richard F. Ely, Island Home Commodities, Hicksville, N. Y., secretary; John G. Rose, Jack Rose Auto Supply, Pittsfield, Mass., treasurer; Don G. Kelly, Universal Bottled Gas Corp., Rochester, N. Y., vice president; and Plumer E. Pope, Fuelite Natural Gas Co., Waltham, Mass. An organization meeting for the following January was authorized and during the intervening time a constitution and by-laws were worked out, using as a model the constitution and by-laws of the American Petroleum Institute. At the January meeting the following men were elected directors in addition to the above named officers: Howard S. Bunn, Carbide & Carbon Chemicals Corp., New York; H. E. Double, Bradford Gasoline Co., Bradford, Pa.; W. H. Frank, Poughkeepsie, N. Y.; Carl G. Nourse, Suburban Gas Co., Cranston, R. I.; and H. Emerson Thomas, Philgas Dept., Phillips Petroleum Co., New York.

At the time the constitution and by-laws were adopted the name, National Bottled Gas Association, was determined upon. It is interesting to note at this time, in view of the recent change in the name of the association, that the selection of a name was one of our original major stumbling blocks. It is recalled that Natural Bottled Gas Association, Liquefied Natural Gas Association, Liquefied Petroleum Gas Association and National Tank Gas Association were all suggested as possible names, but the final decision to adopt National Bottled Gas Association as the title was based on the fact that the public itself had in effect dubbed the industry with that title. It was natural to do so.

Form Market Code

Another meeting of the association was held in April of that year, at which time it was determined to proceed to express definitely the purpose of the association in the form of a Code of Marketing Practices. Keep in mind that this was in 1931, two years prior to the reign and rain of codes under N. R. A. In the first issue of the *Handbook Butane-Propane Gases*, published in 1932, the writer gave expression to the efforts of the association in drafting this code and of having same approved by the Federal Trade Commission, which was the supervisory authority for marketing codes at that time. With the advent of N. I. R. A. and its subsequent invitation to industries to submit codes of marketing practice, it was determined that the National

Bottled Gas Association should sponsor the drafting and presentation of a code for our industry and, perhaps for the sole purpose of co-ordination of activities, the writer was re-elected president of the National Bottled Gas Association and also chairman of the temporary N. R. A. committee. After many weeks of work during the sultry late summer days in New York City, the code was finally presented by the association to the National Recovery Administration in Washington and approved the following November. It must be admitted by all who were active in the industry in those days that the N. R. A. did do much toward bringing the members together and composing real or imaginary differences as to marketing, distribution and safe practice habits. These meetings of both the association and code authority provided the opportunity for competitors to become Jim, Jack and Joe to each other rather than horned and cloven-footed rivals. At these early meetings we had many fine guests, who gave those present encouraging remarks on carrying forward the association work. It is recalled that Judge Amos L. Beatty, president of the A. P. I. and ex-president of the Texas Co., was one of our first principal speakers.

F. R. FETHERSTON

Joins the C. G. M. A.

Very early in the days of the association it was apparent that its work would be of such detail and magnitude that its aims could be accomplished best through having a permanent operating management. Fortunately, just at that time invitations were received from the American Gas Association and Compressed Gas Manufacturers Association for a merger or affiliation of our respective organizations. It was felt at that time that our efforts to have a virile organization might be handicapped in the American Gas Association because of the influence in that body of the combination gas and electric companies. Therefore, the invitation of the C. G. M. A. to affiliate with them was accepted and the National Bottled Gas Association hung out its first shingle at 110 West 40th St., and when the C. G. M. A. offices were moved to 11 West 42nd St., of course we moved over, too. Frank Fetherston assumed the duties of secretary and treasurer and in addition to being a most diplomatic nursemaid during the early days of the association, also served as secretary of the N. R. A. Code Authority, for which he opened separate offices adjoining those of the association, and from where he carried on until the N. R. A. was ruled out by the Supreme Court.

After the writer's tour of duty ended, the presidency was occupied by H. Emerson Thomas without whose assistance from the very beginning it is doubtful whether the original administration could have accomplished much of anything. Mr. Thomas had a broad view of the industry's problems. His contacts with its members were equal to, or greater than, any other single individual, and so his willingness to

serve and ability to get results gave him two terms as president.

Mr. Thomas, being a very active member of the National Fire Protection Association, was able to inaugurate a highly valuable working arrangement between the N. B. G. A. and the N. F. P. A. which resulted in a very necessary understanding of our industry's problems as to the safe handling, storage and utilization of liquefied petroleum gases. Its effect still lasts.

Form Regional Sections

Walter Verkamp, of Cincinnati, had been chairman of the permanent N. R. A. Code Authority, so it was only natural that after Mr. Thomas's tenure ended the association should turn to Mr. Verkamp for leadership. Walter Verkamp, from the very first meeting of the association, had assumed more than his proportional share of association work. It was under his aegis that the regional sections of the association were taken out of the discussion stage and became a reality. The original constitution provided for regional sections, and in 1935 Mr. Thomas made an extensive Western and Pacific Coast trip in the interests of association activities. This groundwork enabled the succeeding administration to bring about this worth-while achievement.

The danger of omitting a single name prevents the writer from attempting to give acknowledgment to many individuals among the appliance and equipment manufacturers as well as the operators themselves for the sympathetic and energetic assistance given during the early days of the association. It is readily admitted that there have been cash dividends resulting from the knowledge gained through contacts with other members of the industry which it is doubtful could have been secured except through the medium of the association. But of even greater value than dividends, the addition of many new names to one's roster of friends is the greatest compensation one could ask. Let any new member of the industry who questions the value of association work understand that it is not the solving of some immediate problems or the clarification of some individual doubt or difference of opinion that determines an association's value, but the broad, long-range viewpoint that the association is constantly bettering the industry's position with the public, with governmental bodies and among the members of the industry itself. Time has proven this.

Hold To High Aims

As one of the old-timers in a young-time industry we wish increasing success to the association, President J. Woodward Martin, his administration and those that follow. It is in good hands now, and if it keeps to the aims for which it was planned and brought into existence it cannot fail to constantly serve the public and the industry. We still have problems that can best be studied and solved by mutual effort and, as the late Judge Amos L. Beatty stated before our 1932 convention, "An industry that takes its problems to a forum of its members will omit many errors."

Rail Preheating with Propane

By W. H. HOAGLAND

Technical Products Department, Shell Oil Company, Inc.

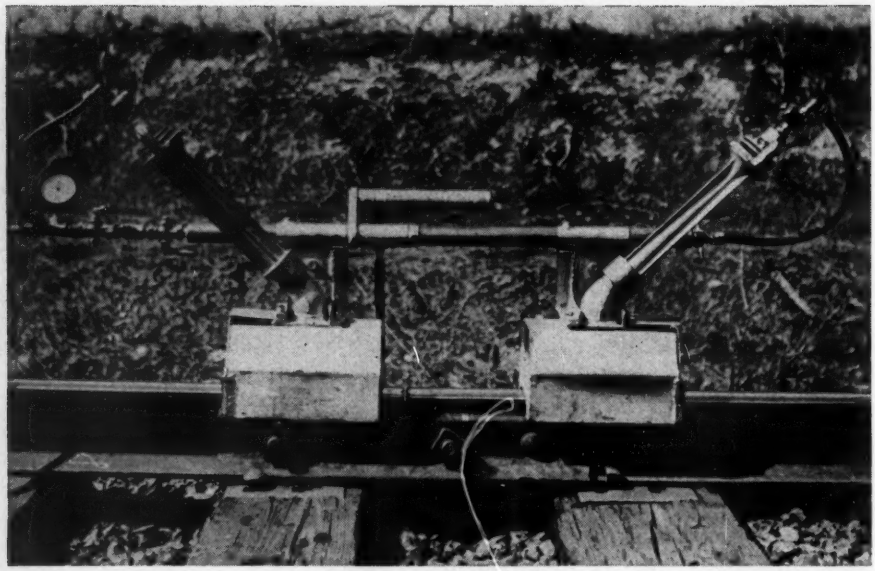
THERE has been a recent development in the repairing and maintenance of ways, or rail rebuilding, that has brought a reduction in costs for this work and greatly improved the method. It is the outcome of the combined efforts of Teleweld, Inc., Chicago, Ill., and the technical department of Shell Oil Co., Inc., and has resulted in the design of a furnace to pre-heat the rails before arc welding. For this pre-heating operation Shell industrial gas, which is propane, is used.

W. H. HOAGLAND

Previous to the adoption of liquefied petroleum gas, kerosene or gasoline has been used for pre-heating the head of the rail before application of the electric arc. Before the application of the arc, the rail pre-heating furnace raises the temperature of the rail head to 900° F. in less than three minutes, securing many definite advantages. Due to pre-heating, the penetration of the arc is instantaneous, no delay being met while the arc raises the temperature of the parent steel to a point where satisfactory fusion can be obtained, the lack of which invariably results in a weld failure. This greater penetration also insures that fusion or weld extends to the bottom of the shattered cracks and fissures which occur with great frequency in battered rail ends. Because the pre-heated metal melts more readily, arc welding is faster, making for economy.

The localized high temperature accompanying fusion or weld of the rail surfaces produces very high stresses capable of cracking the rail head, especially without pre-heating when rail temperatures are low. These stresses

Special carrier built by Teleweld, Inc., to carry cylinder of "Shell Industrial Gas."



One furnace is removed from correct pre-heating position to illustrate flexibility of locating furnaces. The horizontal gas line for both furnaces serves as a guide for sleeves attached to each unit.

are relieved to a harmless level by pre-heating.

A portable unit of two furnaces has been designed to fit over two ends of the rail at the fish plate connection, and either one or both of the furnaces may be placed in operation. The equipment is very light and portable. A special two-wheel truck has been designed by the Teleweld company to carry two furnaces and one bottle of L. P. G. High pressure propane (30 lbs. per sq. in.) and atmospheric air are used in all pre-heating work. A more detailed explanation of the process follows:

To withstand batter after welding, a rail end should have a Brinnell hardness not less than 350 B. H. N. and not greater than 430 B. H. N. If the hardness is much less than 400 B. H. N., ends will batter excessively; if they are much over 430 B. H. N., spauling probably will occur. It is especially important that a hardness not greater than 430 B. H. N. be not exceeded at the end of the weld where weld metal joins normal rail metal.

On completion of a weld, the whole rail ball has been raised to a comparatively high temperature. The weld metal must be selected to give the required hardness under the "chilling" and "tempering" effect of this high temperature. Such a metal is "air hardening." It must be an alloy steel.

The resulting hardness in any portion of the weld will depend on the

rate of chilling and upon the temperature and time of tempering. Unfortunately, these factors are not the same throughout the length of the weld; always after completion of the weld, the rail ball will be hotter at the rail end and cooler at the end of the weld. Therefore, invariably, the hardness of the weld will be lower at the rail end than at the weld end, exactly the opposite of the desired hardness distribution. Under these conditions if the composition of the weld metal is chosen to give sufficient hardness at the rail end, it will be dangerously hard at the weld end. If it is selected to be not too hard at the weld end, it will be too soft and will batter at the rail end.

The only remedy, if properly hardened ends are to be produced, is heat treatment of the weld. This may be effected either by pre-heating or by post-heating at proper temperature and for proper time. In either case the heating must be "differential," i.e., more heat must be delivered in the region of weld ends than in that of rail ends so that chilling and tempering effects will be reversed from that discussed for untreated welds.

Adequate and uniform differential pre-heating gives additional advantages over post-heating for heat treatment. To summarize, heat treatment by pre-heating provides that:

1. Rail will not break from "shock" when welded in cold weather.

2. Penetration of weld into rail metal makes certain it will extend through cracks and fissures in the battered rail end.

3. The layer of rail steel just below the weld, which without pre-heating is critically thin and hard, will be deep and tempered to a safe hardness to more effectively support the weld metal.

4. Stresses will be fully relieved.

5. Welding will be faster, hence cheaper.

Special heaters are required to secure differential pre-heating. Heating must be confined to a definite area spaced away from the rail end, it must be fast to secure the differential effect, and it must be uniform to produce uniform results. Two rail ends usually are welded at the same time; hence, two crucibles are required and these must be adjustable to provide for varying lengths of welds. Portability is also an important requirement. Teleweld pre-heaters have been developed to meet all of these requirements. Propane is used because this is the only fuel of reasonable cost which meets the requirements of control for uniform heating to the required high temperatures in the available time. The use of this gas also permits the use of heaters of extremely simple design, which may be operated by unskilled helpers.

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4000-Gal. Bulk Storage Tank Is Erected at Sterling City, Texas

Announcement is made of the erection of a 4000-gal. butane storage tank by Thurman Cole, of Brownwood, Texas, at Sterling City, Texas. Mr. Cole sells butane in the Sterling City territory at both wholesale and retail. The tank he has erected was fabricated by Dallas Tank & Welding Co., of Dallas.

This company also constructed a 3000-gal. butane tank erected by Traut, Little & Sons Butane Gas Co. at San Saba, Texas, last May. The Economy Butane system is distributed by this company in San Saba, Mills, Burnett, Lampasas and Llano counties. W. T. Little is president of the company. C. H. Little, W. G. Little and A. J. Traut are members of this liquefied petroleum gas firm.

Selling by Trailer

• A new and effective selling tool — the Philgas demonstration trailer — is being supplied to all Philgas districts for use by territory salesmen. The trailers have been found to reduce the number of "closing calls," to increase "one-call" sales, and to triple the number of daily sales demonstrations. — Editor.

THE Philgas Department of Phillips Petroleum Co. is making general use of demonstration sales trailers, in which the demonstrating equipment is properly installed, then operated by its own trained men.

Demonstration trailers have been used by Philgas for two primary purposes: (1) To aid in selling new dealers in new territory, and (2) as retail sales mediums in older, thickly populated territory.

In selling new dealers, a large trailer capable of holding four ranges and a water heater, or three ranges, an Electrolux and a water heater, has been used in making "closing" calls. Experience showed that the trailer slowed down the field men's operations too much when used for survey or canvass calls. After developing the fact that a potential dealer outlet was interested, or was a desirable outlet, an appointment was made to return with the demonstration trailer. Under such circumstances, the following advantages can be capitalized upon:

1. Secures undivided attention from the prospective dealer. It gets him out of, and away from, the distractions normally to be expected in a store in which equipment is displayed.

2. Enables the prospective dealer to see an actual demonstration of both the gas service and the appliances to be sold with it.

3. Enables the dealer to see a representative line of appliances "in the flesh," which tends to encourage the stocking of attractive merchandise.

These same trailers are also used at fairs, picnics, carnivals, and parked in front of existing dealers' stores for retail selling purposes when they are not needed for dealer selling. And again, an effective use is to display a new line of appliances to old dealers.

Retail Trailers

In the older Philgas marketing territories, where the company operates its own retail selling organization in a thickly populated section, to supplement its appliance dealers' activities, smaller trailers are being used for retail selling. In retail selling, the trailers are used primarily for "closing" calls by appointment or by a definite plan of organized calls laid out by the territory salesman. They are also used at public gatherings, on beaches, and lake properties where considerable traffic can be directed through the trailer to see Philgas appliances.

As indicated above, experience has shown that cold canvass work with a demonstration trailer is usually too

slow, although when the trailer is parked for an appointment call, it is usually productive to make cold canvass calls in the immediate neighborhood. Some of the advantages found in the use of demonstration trailers for retail selling include:

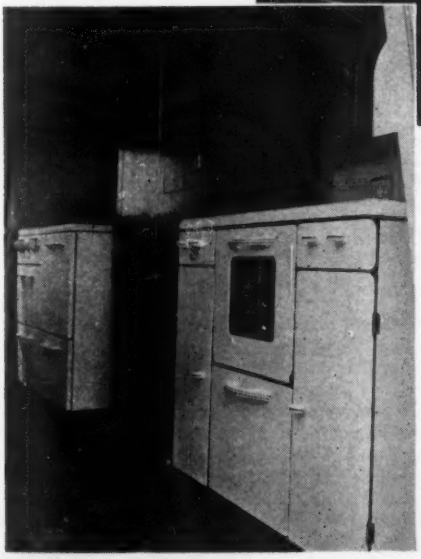
1. The innate curiosity of women. They are willing to go to the trailer to see what's inside.

2. Demonstration of actual appliances without the necessity of taking the prospect to the dealer's store or to other appliance displays.

3. Permits the skeptical prospect to actually cook on a Philgas range. In such cases the salesman attempts to make an appointment with the prospect for the noon hour or dinner hour so that the prospect can actually perform cooking operations in the trailer.

4. The undivided attention of the

Trailers help close sales with dealers and the housewife.



ABOVE: The Philgas demonstration trailer, equipped and ready to be attached to salesman's car. Wherever they go, women are interested.

AT LEFT: Interior view of typical Philgas sales and demonstration trailer with which field men and distributors are highly successful in closing domestic and dealer sales.

prospect can be secured when he or she is in the trailer.

5. The psychological attitude of prospects when in a demonstration trailer seems to work in favor of the salesman. Prospect's "buying guard" doesn't seem to be so pronounced as when in a home.

6. Ability to clearly demonstrate the differences between low priced and higher priced appliances, which differences are not so apparent from catalog pictures. Encourages the choosing of better appliances by the prospect.

Easy To Handle

The use of small trailers for retail selling work seems to be important. At best, trailers are cumbersome to pull around, park, back into driveways, and maneuver. If the trailer is too large and too cumbersome to handle easily, there seems to be a strong tendency for salesmen to get discouraged with the trailers — feeling that their sales value is not as great as the trouble in using. The use of smaller trailers obviously necessitates cutting down the number of appliances which can be displayed but offers many advantages in maneuverability.

Philgas Department does not permit its equipment to be installed in privately owned house trailers. Private owners seldom wish to have the equipment installed properly, that is, in a separate compartment gas tight to the trailer interior and vented to the outside. In addition, house trailers are frequently hauled from one end of the country to another, or into unpopulated regions, where adequate supply and service facilities are unavailable.

G. P. Foster, of Foster Co., Denison, Texas, standing beside 1500-gal. tank constructed by Dallas Tank & Welding Co.

Two Years in Butane Business Will Be Celebrated By Foster Co.

G. P. Foster, of the Foster Co., Denison, Texas, and Colbert, Okla., will this month celebrate his second year in the butane business. During this time approximately 150 butane systems have been installed. Most of these have been domestic. Frank Foster is field man for the company and W. S. King operates the Colbert branch.

Above is a photo of G. P. Foster, standing beside a 1500-gal. bulk plant at Denison, which was constructed by the Dallas Tank & Welding Co., whose plant is in Dallas, Texas.

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Automatic Gas Co. Will Serve Dealers With New Tank Truck

The Automatic Gas Co., Oklahoma City, Okla., has purchased and equipped an additional installation truck.

The truck carries an 800-gal. fuel tank to deliver butane to company customers, and to fuel new and old installations. The truck which, in conjunction with others, will operate all over the state, also will carry stoves, butane systems, pipe, tools, and everything necessary to install butane gas systems, according to L. H. Hughes, a partner.

The Automatic Gas Co. has about 40 dealers in Oklahoma to which it distributes butane gas systems. The company makes the installations where requested by dealers, and also fuels its own equipment.

School Board Says "Butane"

By CRAIG ESPY

THE story of the Keller school at Keller, Texas, begins back in 1938 when, on August 8, construction commenced on a new building.

R. C. Bray, superintendent of the Independent school district, accompanied by the entire school board, determined to find out the best kind of fuel that could be had in the interest of the children's health, efficiency and economy. After much deliberation and careful consideration they decided upon liquefied petroleum gas, but not until the final arguments for this fuel were clinched by a visit to another school where butane has been successfully used for two years. Convinced that this was the best fuel obtainable, the contract was given to New Stargas Service, provided by Lone Star Gas System out of Fort Worth. Clow Gasteam radiators, especially equipped for butane, and with safety pilots, were adopted throughout.

Sessions Uninterrupted

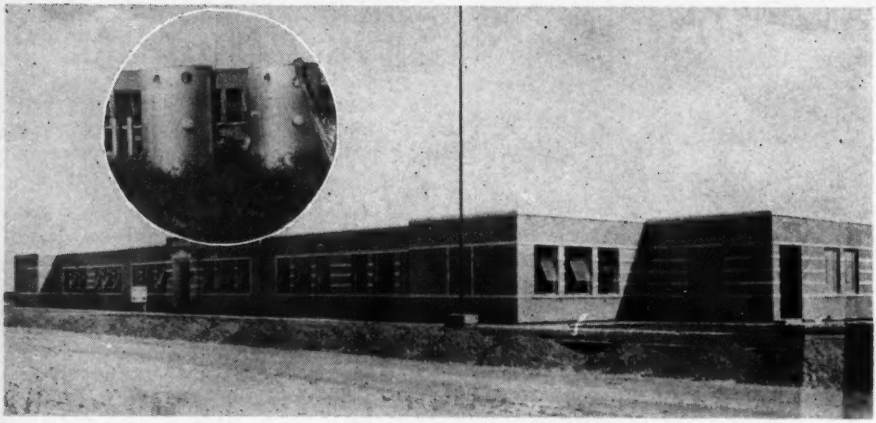
So as not to discommode the 370 pupils, half the school was built first.

Superintendent Bray states that the first unit of the new building was occupied January 8, 1939. Sixteen Clow Gasteam radiators were installed in this unit which included seven classrooms and two offices, embracing 3994 sq. ft. of floor space. Radiation installed amounted to 1260 sq. ft. of steam radiation.

The total cost of operating the radiators from January 8 through April 19 was $99.85. The degree days for the period were 1223. Mr. Bray said it would have cost from $175 to $200 to heat the unit for the same period with coal. Also to be considered in the cost of heating with coal stoves is the upkeep and repair bill. In 1937 Keller school paid $190, and in 1938, $125 to repair its coal-burning equipment. Another item of expense chargeable against heating with coal is that involved in periodically redecorating the building which in the case of Keller school amounted to around $500 every two years.

Butane Healthier

Superintendent Bray also speaks of the more healthful condition of his pupils due to the fact that gas heat can be controlled at constant temperatures; and to the fact that with gas heat the classrooms are free of coal dust. Even though an accurate comparison cannot be made, and he feels that conclusive facts cannot be produced until after the second heating season, Superintendent Bray nevertheless favors the opinion that fewer pupils will be absent with colds and sickness now that gas heat is installed in the school.



The newly constructed school at Keller, Texas, equipped to burn butane gas for heating all the rooms. INSET: Two storage units, each having a capacity of 250 gals.

Two New Stargas service units, each having storage capacity of 250 gals. of New Stargas, are installed aboveground. These systems are maintained by the Lone Star Gas System throughout the life of the installation. A 2-in. main line extends from the unit to a point 5 ft. from the building foundation. It completely circumscribes the building, never getting closer to the foundation than 5 ft.

Thirty-eight ½-in. outlets extend from the main line through conduits in the wall. These conduits are sealed inside and are open to the outside, offering an added precaution against any accumulation of leakage under the building or in the rooms in the event of a leak in the gas line. Should any leakage occur the gas would be conducted outside. All underground pipe is welded and mill-wrapped and the exposed pipe joints and fittings coated with hot pitch.

The radiators are equipped with an automatic regulator that cuts down the flow of gas when 5 to 8 lbs. of steam pressure is generated. Each is vented with transite pipe. Each is installed with a swing joint to eliminate the possibility of the connection being broken by a pupil running into the radiator. Each is equipped with 100 per cent safety pilot so that no gas can escape into the room if the gas is turned on with the burner not lighted.

Through the far-sightedness of the school board both the school building and the heating plant are constructed to accommodate 500 pupils. Very soon now the domestic science building will be completed and this too will be operated with New Stargas service. The members of the school board are Oscar Price, Ollie Whitley, Tim Choat, Blunt Crawford, Tom Drake, Richard Blevings, Rufus R. Walker, and R. L. Bray. Ira Mayo, New Stargas representative for Fort Worth Division of Lone Star Gas System, assisted these men in applying the service to their needs. Architects, C. M. Love & Co., Fort Worth.

Vapor Differential System Reduces Transfer Losses

By EARL M. EVLETH

Vice President, L. C. Roney, Incorporated, Los Angeles

THE rapidly increasing demand for butane in both domestic and industrial service in the Imperial Valley of California indicated the necessity of increased storage and dispensing facilities at the plant of the Carter-Hunter Oil Company of Imperial. It is interesting to note that, since last fall when the first plant was installed, the growth of sales in this community rendered the original storage capacity of 3000 gals. insufficient within six months, and the officers of the company decided to install tankage of 10,000 gals. capacity with the most modern type of liquid transfer equipment available. As further increase in demand is anticipated, the tank foundations were constructed to take an additional 5000-gal. storage tank when required.

Two 5000-gal. net capacity butane storage tanks of 145 lbs. working pressure, built in accordance with the California Industrial Accident Commission regulations, are mounted on reinforced concrete piers about 100 ft. from the railroad siding. These are shown in Fig. 1. A 2-in. extra heavy steel pipe line carries the liquid from the tank car to the storage tanks and a 1-in. extra heavy pipe line provides for the vapor return or vapor equalizing connection. All pipe lines are above-ground.

The liquid transfer is all accomplished by a vapor differential system rather than by the use of liquid pumps or compressors. The vapor compressor assembly is shown in Fig. 2 and a study of the schematic piping diagram in Fig. 3, and the following explanation will indicate the simplicity and

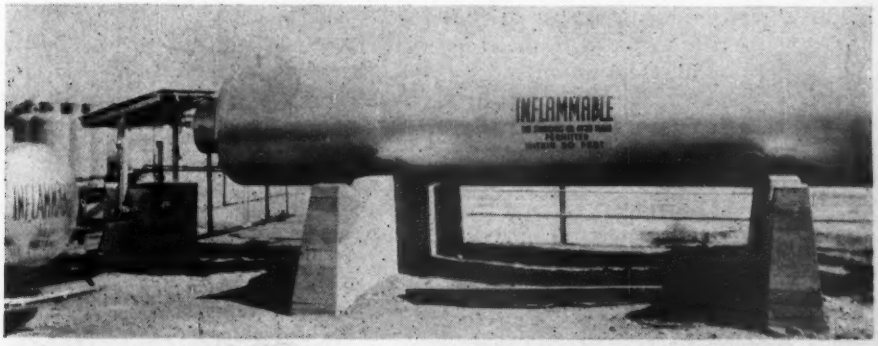


FIG. 1. Two 5000-gal. capacity storage tanks mounted on reinforced concrete piers at plant of L. C. Roney Co., Imperial, Calif.

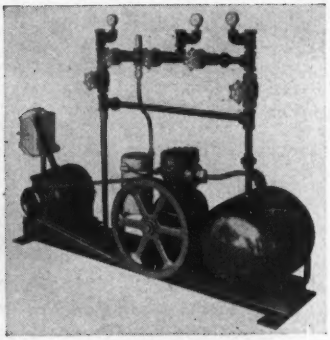


FIG. 2. Vapor-differential unit showing compressor, motor and manifold.

effectiveness of the differential system.

To discharge the tank car into the storage tanks the compressor manifold valves "2," "4" and "5" (Fig. 3) are opened. The compressor then draws vapor from the storage tanks, creating a low pressure therein, and discharges the recompressed vapor into the tank car, building a high pressure, the differential being ample to rapidly force the tank car liquid into the storage tanks. While the actual transfer of a sufficient volume of vapor is essential, the pressure differential is materially increased by reason of the lower temperature created in the storage tank by liquid evaporation and the higher temperature of the vapor created by recompression in passing through the compressor.

When the liquid transfer is completed, the tank car and storage tank liquid valves and the compressor manifold valves "2," "4" and "5" are closed, and valves "1" and "3" are opened. The compressor unit then serves to evacuate the residual vapor from the tank car, passing it through the vapor return line over to the storage tank where it condenses to liquid, eliminating to a large extent the "in transit" losses. This saving may amount to several thousand gallons per year, depending upon the amount of liquid handled.

In filling small tanks, transport tanks, and truck fuel tanks, manifold valves "3" and "5" are opened and the compressor creates the necessary differential for the rapid filling in the same manner as in tank car unloading.

The entire system was designed and constructed by L. C. Roney, Inc., of Los Angeles, and is one of several such systems installed during the past few months after several years of intensive and varied field tests.

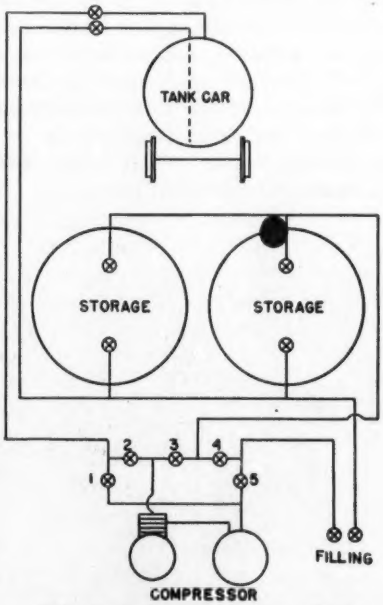


FIG. 3. A diagram chart which shows relative positions of tank car, storage, and valves.

Five Steps For Modernizing Sales

• **D. Maynard Phelps, Associate Professor of Marketing, University of Michigan, Ann Arbor, Mich., in a paper entitled "Suggested Steps for Modernizing Sales Departments," delivered before a group of stove manufacturers, printed in the August Stove Builder, official publication for the Institute of Cooking and Heating Appliance Manufacturers, Washington, D. C., and reprinted with permission. — (Abstract by BUTANE-PROPANE News.)**

WE hear much these days about modernization or reorganization of sales departments. My particular interest is in reorganization of field selling. First it may be necessary for us to agree at least tentatively upon the objectives of such a reorganization. Some of the more important ones are: (1) A better distribution of sales effort; that is, a distribution of effort more in accordance with the possibilities for sale. (2) An improvement in the allocation of territories to salesmen so that each salesman has enough to do but is not given an impossible task. (3) Improvement in procedures to provide for effective control of salesmen. (4) A better method for judging the performance of salesmen than sheer volume of business secured or volume-expense ratios. (5) Improved means for helping the dealer to resell effectively.

This is an imposing list of objectives; still there would be little disagreement as to the desirability of attaining them *if it is possible to do so.* There may be some skepticism on the latter point. But manufacturers in other lines have been able to improve sales volume, reduce costs, and increase profits by reorganization of their field selling activities. In each instance reorganization was based on sales research studies. Perhaps the same methods and procedures with the same desirable results are possible in this industry.

The experience of one company is particularly illuminating. It sells to furniture stores, hardware stores, and department stores. The company is one of the leaders in its field but despite this fact executives thought that selling effort was not properly apportioned between different parts of the market and that its distribution was spotty. More specifically, executives thought that there was insufficient control of salesmen, too much attention to and expenditure on poor accounts, insufficient attention to larger accounts, and improper arrangement of territories. This implied a criticism of the company's salesmen, for the responsibility for planning sales effort in the field had been placed upon their shoulders. Each man independently determined the itinerary which he should follow, the dealers on whom he should call, and the spacing and frequency of those calls. Although the company had confidence in its salesmen, executives were convinced that decisions on these matters were not being made wisely and

that the activities of salesmen should be more closely supervised.

Perhaps this illustrates the fact that planning by salesmen is very infrequently an effective substitute for planning in the home office. The vast majority of salesmen have not had the proper training to do planning work effectively. They lack foresight in relation to their activities. They are not, nor can they be expected to be, research workers. If they are allowed to operate without supervision from the home office they are likely to be too greatly influenced by the attitude of the dealer on previous calls, the probable size of the immediate order, the convenience of making a call at a particular time, and other such factors. If they are paid on a commission basis they are very likely to neglect missionary work with dealers which in time might produce excellent results. The factor which should govern the activities of salesmen in the field is a rational appraisal of the value of different accounts as sales outlets for a company's products. It is not uncommon practice to shift salesmen from one territory to another. Often such a move has desirable results. A new salesman is not defeated before he enters a retail outlet. He has not yet learned the accounts to avoid.

Appraise Prospects

The company previously mentioned tried to make a rational appraisal of all sales outlets for its products. An analysis was made to determine the number of calls which should be made on each dealer in view of his probable sales volume in the company's products. Information was secured from past sales records, salesmen's call report sheets, and the recognized retail trade directories. The potential sales volume of the various accounts was determined by reference to information from Dun & Bradstreet's capital and credit ratings and by information secured from the company's own salesmen and executives. After the dealers were thus graded these grades were translated into call frequencies. In other words, the company attempted to answer this question: In view of the size of this dealer and the business which he is likely to do in our products, how often can we afford to call upon him? From this analysis it was determined that some dealers should be called upon every few weeks but that others did so little business in the company's products that direct solicitation should be limited to an annual call. With the results of this dealer analysis in mind each salesman was carved out a territory which needed the number of calls which he was capable of making in view of his capabilities and past performance as a company representative.

Rates and Records

The next step was to determine what route the salesman should take in the cultivation of his territory. This was complicated by the fact that call frequencies for each dealer differed, but routes were laid out and salesmen were supposed to follow them. Of course some deviation from these set routes would be expected, but the salesman was likewise expected to justify such deviation in his particular case. Those who were responsible for the study attempted to set these routes so that the salesmen would reach the most impor-

tant towns at the most desirable times. Economy of time, mileage, and effort, and an attempt to avoid fatiguing trips were also considered. In addition to route sheets, forms were developed to provide for call records, individual customer records, and others which were needed to put the plan into operation. It is probably not necessary to stress the value of this study. As a result, the company knew who its customers were, how important they were, and furthermore had some idea of how much time and effort they deserved. In other words, the company *knew its market* and had made definite plans systematically and aggressively to cultivate that market.

Choosing Customers

Let us take the question of choosing customers and of attention to important customers a bit further. It is common practice among manufacturers to size accounts; that is, to classify accounts by size as determined by volume of business secured. Usually 25 per cent or less of total customers furnish 75 per cent or more of total sales volume. In one case which recently came to my notice, 20 per cent of the accounts gave 90 per cent of the business, and 100 selected customers out of a total of 7000 gave 70 per cent of the business. In all cases where such information is secured, the following question arises: Would the company be better off from the viewpoint of net profit without these small accounts which together give so little sales volume? Of course the answer depends upon what it costs to serve them. The answer to this question in turn depends on a host of factors among which are the location of the customers, the size of the orders which they give, and how many calls had to be made in order to get the business. These facts can be determined and need to be for any thoroughgoing sales analysis.

Unprofitable Customers

It is probable that every company has many unprofitable customers which they would be better off without. We are likely to say that small customers contribute something to overhead, that we must take the small ones with the large ones, and that small orders will lead to larger ones later. But the fact of the matter is that many small customers are located in nonproductive territories and that they have little opportunity to sell additional merchandise. Furthermore, dealers in many lines insist on splitting orders among two or more suppliers, and as a result they are unprofitable to all. There are some classic illustrations of this fact. From one study it was found that wholesalers were soliciting certain outlying customers so frequently that the cost of getting each order was greater than the amount of the order itself. In other words, the wholesaler gave away the merchandise and something in addition. Classification of accounts by size and later attempts to determine whether or not the small ones are profitable may lead to the decision that many of them are not. The constructive part of the program then appears. The question is as follows: How can these customers be served so that they will become profitable? Perhaps the same volume can be secured by fewer calls or direct mail advertising may be substituted for personal solicitation.

Finally, I want to say something of sales quotas, their use, and how they are set. One-third to one-half of all manufacturing concerns now use some form of sales quota. One publication lists the objectives of quotas as follows: (1) To define the sales task, (2) to locate weak points, (3) to serve as a basis for advertising, (4) to serve as a basis for remuneration, (5) to provide special incentives.* In order to attain these and other desirable objectives the use of sales quotas is now recognized as desirable by many well-managed concerns. In reference to setting quotas, companies are too prone to set them entirely on the basis of past sales. This penalizes the good salesman who has been doing an excellent job in his territory, and favors the poor salesman who has not been doing well. The objective should be to determine whether a salesman is doing well or poorly in relation to *the possibilities for sale*, and then, by some means, to stimulate the poorer salesmen to do more effective work.

Appraising the Field

Possibilities for sale in one territory relative to another depend upon a number of factors, among them the number of people, the amount of purchasing power which they have, and, in some cases, upon other factors such as climatic conditions, the number of communities, and the proportion of urban population. The important factors which condition demand for any product can be discovered if some data are available on the previous distribution by States or other territorial divisions.

Last fall an attempt was made to determine the distribution which sales should take for a certain company. The relationship between the sales of this company and a number of factors was tested on a county basis. Among these factors were average income per farm, wealth per capita, average value of farm land per farm, and indexes of manufacturing activity. No important relationship was discovered but this was not positive proof that no relationship existed because the company had very spotty distribution. Further tests were made between the company's sales and data on two series from the 1935 Census of Business. These two were (1) sales of furniture, equipment and radios, and (2) sales of lumber, building material, and hardware. Again no significant relationship was discovered which proved beyond doubt that the company had spotty distribution. Finally, these later series were correlated with sales in 25 counties in which the company was making substantial sales and a high degree of relationship was discovered. This seems to indicate that the best single series which a stove company or similar concern can use to test its distribution of sales against sales of the industry as a whole is the distribution of sales of lumber, building material, and hardware as reported by the 1935 Census of Business.

Perhaps it would be better for the industry to accumulate its own sales data as an association activity. At least it appears that more data are necessary from some source before certain steps in modernization can be taken.

*C. E. Griffin, *Sales Quota Systems*, Michigan Business Studies, Vol. I, No. 5, Ann Arbor, Mich.

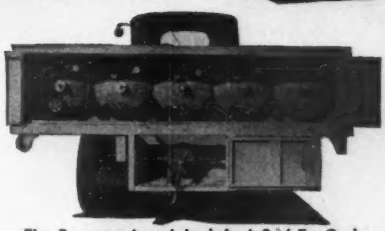
COLUMBIAN BUTANE SERVICE TRUCKS

● Columbian maintains its leadership with the introduction of another outstanding transportation unit — the COLUMBIAN COMBINATION TANK-PLATFORM BODY designed to meet the needs of dealers in Butane and Propane.

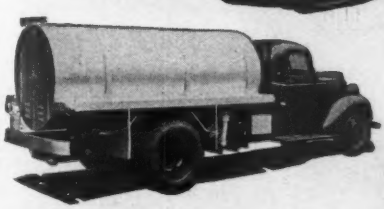
With this more efficient unit a dealer can deliver underground Butane tanks, easily lower them into the hole with revolving winch and derrick (one man and a boy can do the job in 10 minutes, saving labor of several men) without danger of marring protective coating of tank. Five 100-gal. tanks in platform make possible servicing with Butane at same time tank is delivered. Hand or power pump for speeding up flow of Butane from service tanks or filling bottles. One profitable trip for the complete job with minimum amount of time and labor.

Platform is 84 in. x 144 in., surfaced with 1⅛-in. oak; stake pockets. Body designed for mounting on standard 155-in. to 158-in. wheel base truck chassis. Strong, sturdy and capable of carrying any load to tire capacity.

WRITE TODAY for complete information, and prices, concerning this modern equipment that can make your service business more profitable—or facts about Columbian Butane transport trucks and semi-trailers.



The 5-compartment tank is A.S.M.E., Code U-69; 200 lbs. Working pressure, complete with necessary valves, fittings and hand pump all housed behind locked doors.



COLUMBIAN STEEL TANK CO.

P. O. Box 4226-Z Kansas City, Mo.


THE NEW REG KX

KX CUTTING TORCH OPENS THE WAY TO

greater PROPANE and BUTANE Sales

IT INCREASES THE GAS LOADS FOR PRODUCERS
IT LOWERS FUEL COSTS FOR THE CUSTOMERS

Recommend and sell the tool that increases the usefulness of propane and butane gas. Your gas market will bulge with the new appeal of economical cutting with the RegO KX. Your gas customers want the story of what you and RegO can do for them. Give them this story:

First — The new RegO KX torch and tips for use with oxygen and propane or butane give faster starts in cutting.

Second — Extremely clean, narrow cuts — little or no chipping - grinding.

Third — The low flame temperature tends to lessen any hardening effect on the metal adjacent to the cut, thereby lowering after-cutting machining costs.

Fourth — Superior construction and all around "abuse-proof" operation of the new KX will instantly command attention by your gas customers and merit their acceptance.

Specify Rego KX—Write for Literature!

The BASTIAN-BLESSING Co.

258 E. Ontario St. Chicago, Ill.

Pioneers in equipment for using and controlling high pressure gases

Shell Oil and Coltexo Corp. Build Natural Gasoline Plant

Shell Oil Co., Inc. and Coltexo Corp. are now jointly constructing a natural gasoline plant in the Wasson-Bennett field near Seagraves, Texas, to handle 24,000,000 cu. ft. of casing head gas per day. Since the plant is designed for very high recovery of butanes, some unusual features are incorporated.

The cycle consists of compressors operating at atmospheric suction and 200-lb. discharge. The compressor discharge gas passes through an absorber and comes in contact with lean oil saturated with propane from a depropanizer to obtain a high recovery of butanes. The finished product will be disposed of through a crude line blend as propane free natural gasoline, having approximately a 36-lb. Reid vapor pressure.

It is expected that 95 per cent of the total butanes available will be recovered in the finished product. The plant will be completed about November 1.

■ ■

C. A. E. Rinker Made Skelgas Agent For Madison County, Indiana

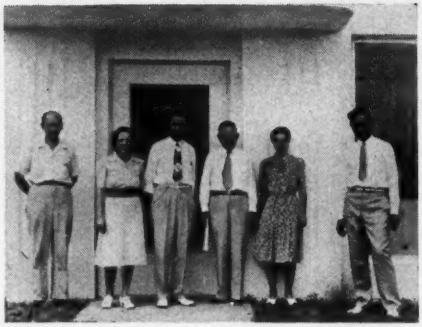
The Rinker Hardware Store, Anderson, Ind., was appointed a dealer for Skelgas products in Madison County during the latter part of August, according to an announcement from C. A. E. Rinker, proprietor. Mr. Rinker's son, Thurman, is manager.

At the time the agency was established, four representatives of the Skelly Oil Co. spent several days acquainting salesmen and prospective users with the advantages of liquefied petroleum gases and appliances for cooking, heating and refrigeration. These were William Fisher, Russel Willsey, C. R. Winship and M. R. Sears.

■ ■

Moody Brothers Open $6500 Building for L.P.G. Sales

Completed at a cost of $6500 a new, specially built business block was opened on September 2 by Moody Brothers, of Fort Myers, Florida, dealers in Green's Fuel (liquefied petroleum gas) and gas appliances since 1936. Modernistic in architecture and designed for attractive displays and facilities for carrying on a plumbing business in addition to their other lines, this



Left to right: Charles Stackpole, Mrs. Walter Moody, Walter Moody; J. B. Green, president, Green's Fuel, Inc.; Miss Esther McCall, and Gerald Moody.

new building was the scene of a considerable celebration at the time of its opening, followed by a series of cooking demonstrations to better acquaint local residents with the advantages of cooking and heating with butane gas.

Moody Brothers cover Lee, Collier, Glades, Charlotte and Hendry counties in their operations. Walter Moody is sales manager for the firm; his brother, Gerald, is head of the service department, and Miss Esther McCall is home service demonstrator and does outside selling as well.

Part of the personnel of the company is shown in the photo above.

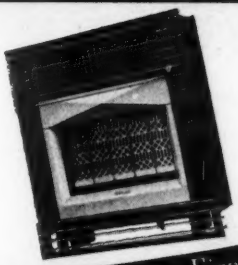
■ ■

Ripley Gas Service, Inc., Named Blu-Flame Dealers in Ripley, Ohio

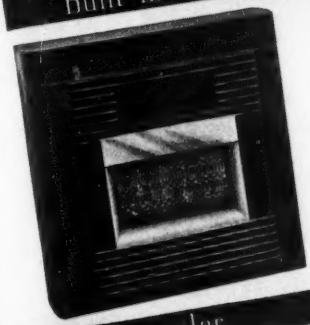
Incorporated last June under the name of Ripley Gas Service, Inc., this concern is now actively engaged in the sale of liquefied petroleum gas and gas appliances, with offices in Ripley, Ohio, and the territory including Brown, Adams, Clermont and Highland counties. Robert Martin is president of the company and the incorporators are Mrs. Clara Martin (Mr. Martin's wife), Dr. George P. Tyler, Jr., and Arch Hicks, Jr.

The company will distribute Blu-Flame gas and appliances. Blu-Flame is processed at the Columbia Gas and Electric Co. refinery at Catlettsburg, Ky., and is being trucked from there to the Ripley bulk station.

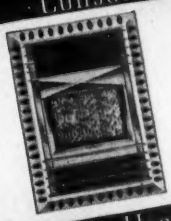
The Advanced Features of CIRKLAIR GAS HEATERS Bring *New* Sales–*More* Sales



Inset Units for Fireplaces, Wall Heaters, Mantels and Built-in Cabinets



Consoles



Bathroom Heaters

The patented multiple duct design of the CIRKLAIR GAS HEATER is the reason that it gives such efficient circulation of heated air . . . it is also the reason for the amazingly small fuel consumption . . . it is also the reason why CIRKLAIR GAS HEATERS can be encased in wooden enclosures without insulation, thereby making possible convenient and decorative installations in sham mantels, corner cabinets, under stairways and in all types of built-in furniture and cabinets.

These are the advanced features that bring you NEW sales, MORE sales, PROFITABLE sales.

Large Volume . . Small Inventory

The CIRKLAIR GAS HEATER line is so standardized that a very small stock of units enables you to handle the large volume you can obtain. In fact, you can do a much larger volume with CIRKLAIR than with any other line.

Our confidence in your ability to develop large sales on CIRKLAIR is based on what other Butane Gas Appliance Dealers are doing with the line.

Write today for the interesting and amazing facts about CIRKLAIR HEATERS.

CIRKLAIR PRODUCTS DIVISION

THE FOLSOM COMPANY—*"Since 1909"*

509-515 Elm Street Dallas, Texas

Please send me complete information about CIRKLAIR GAS HEATERS.

.....

THE SENSATION OF 1940

NOW! A sensational new 1940 line of quality-built Estates designed to compete *on a price basis* with lower quality ranges in the field in which the big volume of gas range business is done. And, best of all, they're ready *now* . . . for you to turn into extra sales.

SAME RANGE WITH GRID-ALL
PRICED TO SELL AT
$89.95

The WELLESLEY Estate — No. 701. Recommended for headline display in your sales promotion this fall. Has the new Air-Flow Oven, drawer broiler, utensil compartment and drawer. 38" wide; cabinet flush to the wall.

The SWEETBRIAR Estate — No. 703. (Not illustrated.) Same general appearance as the Wellesley, but with waist-high, barbecue-type broiler.

PRICED TO SELL AT **$99.95***

**Slightly higher prices on all ranges at points remote from the factory.*

ESTATE *GAS RANGES*

Available for all types of
LIQUEFIED PETROLEUM GAS

IS HERE

ESTATE MAKES ITS DRAMATIC ENTRY INTO THE LOW-PRICED GAS RANGE FIELD . . WITH THE "STEAL-THE-SHOW" RANGES OF 1940

The VASSAR Estate—No. 704. Same "chassis" as No. 703, but with top burners set in pairs and table-top space between. New Air-Flow Oven. Waist-high, barbecue-type broiler. 38" wide.

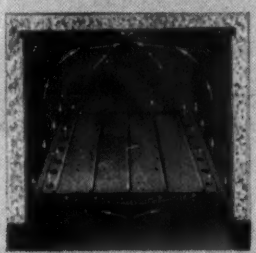
The RADCLIFFE Estate—No. 739. World's biggest 36 inches of gas range value. New Air-Flow Oven, drawer broiler, utensil compartment. Cabinet flush to the wall.

ALL MODELS ALSO AVAILABLE WITH CP SPECIFICATIONS

MARVELOUS NEW

ESTATE *AIR-FLOW* OVEN

IS ONE OF MANY FEATURES WHICH GIVE YOU MORE THAN PRICE TO TALK ABOUT IN A LOW-PRICED GAS RANGE.



Combines the best features of the famous Estate "Fresh-Air" Oven with new speed and economy. Heats up faster. Saves gas. Assures uniform baking. Provides extra pan room . . . yet range doesn't occupy an inch more kitchen space. It's the oven that will give you something new and exciting to talk about in a low-priced range.

DON'T DELAY—the quicker you get started . . . the quicker you begin to profit. So, write or wire today for catalogue, prices and other details.

THE ESTATE STOVE COMPANY, HAMILTON, O.

Two California Commuter Lines Use Butane-Fueled Buses

Commuter service from San Francisco to Martinez, Calif., which was temporarily discontinued on Aug. 1, has been resumed. The service will employ motor buses powered by butane-fueled engines.

A similar service is operated between Sacramento and Placerville in the heart of the Mother Lode mining country.

■ ■

Cussins & Fearn Sales Meet Discusses Rural Market

Representatives of the Geo. D. Roper Corp., the Shellane Division of the Shell Oil Co., Inc., and Cussins & Fearn Co., Roper agents, of Columbus, Ohio, met in a midsummer convention at the Deshler-Wallick Hotel, Columbus, to lay plans for a unified sales drive in rural districts.

Cussins & Fearn managers and sales people from middle-western Ohio attended to hear constructive addresses on liquefied petroleum gas and gas appliances. Frank B. Boice, of St. Louis, manager Shellane Division, Shell Oil Co., Inc., presented the story of Shellane, with an elaborate display of sales aids, dealer helps and dramatized customer selling. Lee D. Higden, Ohio representative for Shellane, covered the mechanics of Shellane bottled gas and its installation. And E. Carl Sorby, sales promotion manager of Geo. D. Roper Corp., demonstrated his company's ranges with the use of liquefied petroleum gas.

A photo taken during the meeting is below.

■ ■

Liquefied Gas Co., Albuquerque, Will Have Two 5000-Gal. Tanks

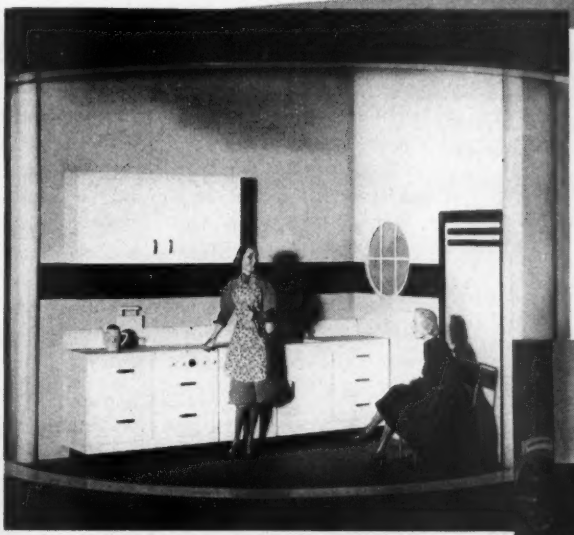
The Skelly Oil Co. is having constructed two 5000-gal., 125-lb. working pressure, above-ground tanks.

They are to be installed on property of the Liquefied Gas Co., of Albuquerque, N. M., for storage of butane gas to supply customers of the New Mexico firm in nearby territory.

At the summer sales meeting of middle-western Ohio dealers and sales people of the Cussins & Fearn Co., Columbus, Ohio. Those facing the camera are, left to right: E. F. Cole, manager, appliance department, and B. A. Durrant, general manager, Cussins & Fearn; F. B. Boice, manager, and Leo D. Higdon, Shellane Division, Shell Oil Co., Inc.; E. Carl Sorby, sales promotion manager, and N. McManamy, Geo. D. Roper Corp.; G. A. Hildreth, supervisor of branch stores, and R. F. Wunderlick, Cussins & Fearn.

At the New York World's Fair

THE ROBERTSHAW DOLL THEATRE SELLS MODERN GAS RANGES FOR YOU!

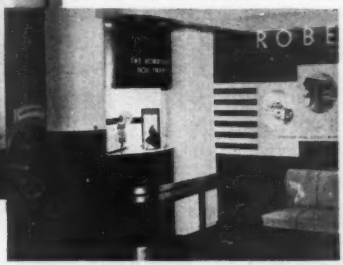


Visit the

ROBERTSHAW WORLD'S FAIR EXHIBIT

While at the

A.G.A. Convention



They're hearing it now—those crowds that are flocking to the New York World's Fair. They're hearing the dramatic story of modern progress in terms of the modern gas range. And they're going back home determined to get their share of the World of Tomorrow—*today*

The Doll Theatre at the Fair is just one more means for Robertshaw to carry to the millions the stirring message of automatic heat control, to fix in their minds the Robertshaw dial as a definite symbol of gas range excellence, to make it easier for you to sell Robertshaw-equipped ranges.

ROBERTSHAW
THERMOSTAT COMPANY
YOUNGWOOD, PA

HELP YOUR SALESMEN!... *Put this radically new kind of sales manual in their hands. We supply it* FREE!

"More Income" is geared to today's selling needs, marks an entirely new approach to gas range promotion, brings a wealth of new facts, new ideas, new methods to the salesman's finger-tips. Hardly off the press, "More Income" has already evoked an amazing response, has brought enthusiastic cheers from even the most successful salesmen. How many copies do you need for your staff?

SELLING

The Habit Hurdle

Which shoe do you put on first when you get dressed in the morning? You probably can't say off hand. But if you will check into it, you are almost sure to find that you have formed the habit of pulling on the same one every day. And if you watch yourself, you'll be surprised to discover how many other of the routine actions you perform during the day are governed by habit. You have a certain way of putting on your hat; a certain way of leaving the house; a certain way of lighting a cigarette as you settle down for the ride to the office; a certain way of standing; a certain way of sitting; a certain way of blowing your nose.

But what, you ask, has all this to do with the job of selling? Well, it has a great deal to do with it, particularly with the job of selling gas appliances. For nowhere do actions become more routine or habits become more firmly fixed than in the home. A woman who keeps house must go through the same habit-forming round of cooking, washing, dusting, ironing, and cleaning day after day, month after month and year after year. By systematizing her work and establishing habitual ways of doing things she can get through a tremendous amount of work in a very short time.

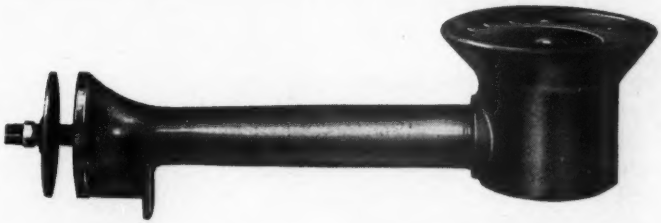
And she learns to make the use of whatever household appliance she has, a part of that routine. If she has an ice refrigerator, for instance, she gets in the habit of adjusting her routine to the limitations of that kind of refrigeration. If she has a range without automatic temperature control, she learns to govern her baking accordingly. The longer she uses a certain type of household appliance, the more fixed her habits are likely to become involved with it.

The job of selling such a housewife, obviously, is the job of breaking up established habits. Whether she is willing to admit it or not, a fundamental objection the average housewife has to the purchase of new equipment is simply reluctance to give up entrenched routine. She will advance all sorts of other objections, but upon analysis one finds that the "habit hurdle" is at the bottom of it.

A woman who has become accustomed to a non-insulated range, may hesitate to purchase a modern insulated model because she has depended on the oven to heat her kitchen in the morning. A woman who is used to a manually operated water heater may reject an automatic type because she figures she can get along without constant hot water. And so forth.

How to surmount this difficulty? The salesman, first of all, should probe for it to see if it is there. And having established that the prospect is holding back on a habit objection, then he is in a position to dispose of it. Perhaps the strongest argument the salesman of modern gas appliances has is this: automatic gas appliances, almost entirely self-regulatory, are creatures of habit themselves!

FORSTER "SPREAD HEAD" BURNERS FOR ALL GASES



Forster Spread Head Burners produce a bushy type spreading flame of intense heat. These burners lend themselves readily to automatic control, are difficult to extinguish or backfire.

They operate on high or low pressures on butane, propane, natural or manufactured gases, and are available in four different sizes.

Particularly adaptable to firing round furnaces, water heaters, stoves, cooking pots, large ranges, small boilers, soft metal and asphalt pots and many similar applications.

These, and many other types of gas burners, are illustrated and described in the FORSTER BURNER CATALOG. Write for a copy today.

★ *We are prepared to design and install industrial butane standby plants, public service gas plants, as well as automotive and stationary engine conversions. Your inquiries are solicited.*

RANSOME COMPANY

Manufacturers of Forster Torches and Burners

4030 HOLLIS STREET **EMERYVILLE, CALIF.**

RANSOME

Ten Rules for Talkers

As many men have talked themselves out of a sale as into one. Perhaps there is no universal set of rules that will cover all cases; but here are ten principles that can be observed by everyone without doing anyone any harm.

(1) Stick to the point. No matter how much you may love the sound of your own voice, it isn't likely you will make ourself very convincing by just making sweet noises.

(2) Let the other guy get a word in edgewise once in a while. He may have something to contribute after all.

(3) If you just can't keep from interrupting when the other person has the floor, wait until he finishes his sentence.

(4) If you think of a good wisecrack in the middle of a serious conversation, keep it to yourself.

(5) Don't contradict. There is a remote chance that the other fellow may be right; and even if he isn't, he probably has a reason for his point of view.

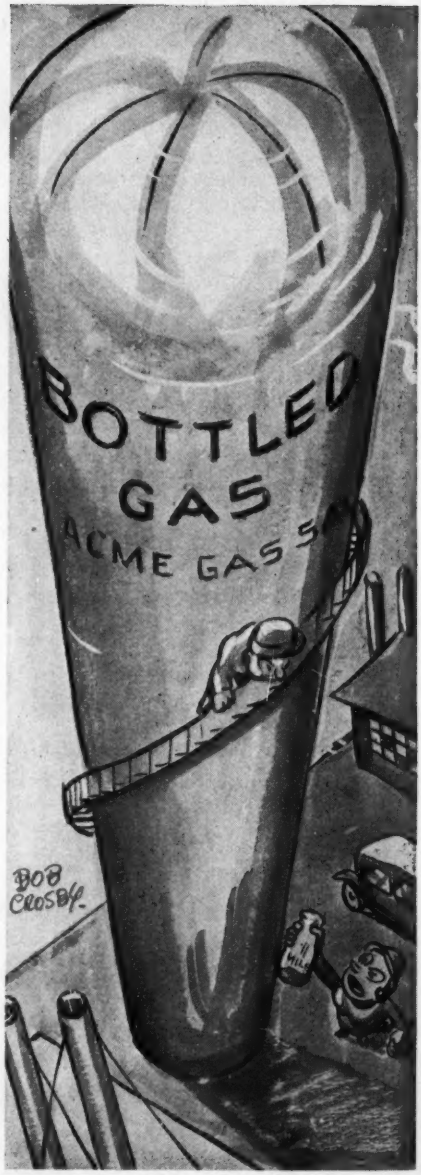
(6) Be specific. One picture is worth 10,000 words. One concrete example is worth a million generalities.

(7) Don't shout. A low pitched, conversational tone has swayed juries.

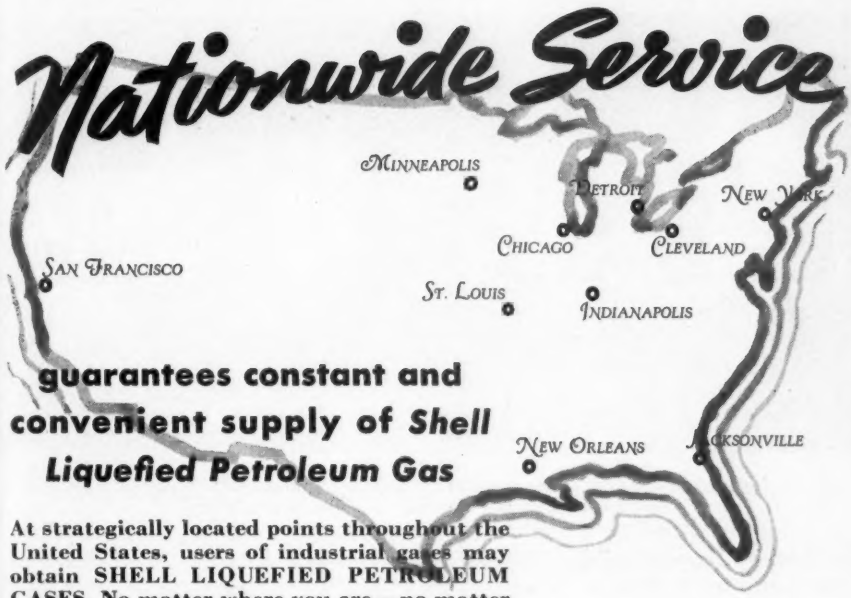
(8) Try to let the other person arrive at conclusions. No one is as completely convinced as the man who has formed his own reasoned opinion.

(9) Don't lay down the law. There is nothing that rouses the cantankerous spirit of controversy so quickly as flat-foot statements.

(10) Develop terminal facilities. There is a time to stop and there is a time not to stop; but it is better to err in favor of the former. Try it and see.



"—I say, young man, I'd like about a dime's worth!"



guarantees constant and convenient supply of *Shell Liquefied Petroleum Gas*

At strategically located points throughout the United States, users of industrial gases may obtain SHELL LIQUEFIED PETROLEUM GASES. No matter where you are—no matter what your requirements—in emergencies or in daily use, Shell can serve you.

Nation-wide technical service as near as your telephone . . . Shell maintains an expert engineering staff available to all customers—whether industrial or commercial. This service is prepared to assist in the design of equipment for the application of gaseous fuels.

Shell science stands behind Shell's sales force . . . In addition to their highly trained engineering staff, Shell Laboratories are constantly testing to insure the high standard of Shell Liquefied Petroleum Gases. Any technical problems can rapidly be solved through the use of these scientific facilities.

So remember—for economy and convenience—for expert engineering service—and for laboratory tested products—write or telephone Shell!

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NEW ORLEANS
CLEVELAND

SHELL LIQUEFIED PETROLEUM GAS

P. K. Lea and Jack Elliott, salesman for Cy Carney Appliance Co., standing in front of the store of the company at Fayetteville, Ark.

Cy Carney Appliance Co. Covers Four Counties in Butane Sales

The Cy Carney Appliance Co., of Fayetteville, Ark., is now covering four counties in northwestern Arkansas in the sale of butane gas systems, Tappan and Chambers ranges, Electrolux refrigerators and Pittsburg water heaters. Cy Carney is president of the company. Branch offices are located at Rogers, Ark., with A. A. Welbourn in charge, and at Siloam Springs, where James Taylor has the management. A. W. Rexroad is division manager of the company, with headquarters at Fayetteville. (Photo of store shown above.)

Mr. Carney also operates the Van Buren, Ark., Appliance Co.

■ ■

Servel August Contest Award Goes to James E. Lawrence

The August sales letter contest of Servel, Inc., had as its subject, "What Do You Say When Your Prospect Says She Can Buy an Electric Refrigerator at Wholesale?" and the winning letter was written by James E. Lawrence, of The Model Kitchen, Wichita, Kan. The writer was awarded a cash prize of $10.

Mr. Lawrence, in his winning letter, declared that even if an electric refrigerator were purchased at wholesale it might not prove to be as economical an investment as a Servel at retail because (1) the sales agency could not be expected to retain the same interest in an appliance sold without profit, and hence would not give such good sercvice; (2) the saving in cost of operation of a gas refrigerator over a reasonable period would more than offset the reduction in original price; and (3) that the life of a gas refrigerator should be much longer than that of an electric because the former has no moving parts to wear out and to grow more noisy with age.

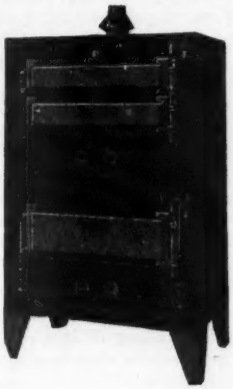
Second award of $5 went to Leo J. Wischman, of Michigan Consolidated Gas Co., Detroit; third prizes of $3 each to six additional entrants, and honorable mention to 14 others.

■ ■

San Joaquin, Calif., School Will Be Butane-Heated

A modern gas heating system has been installed in the elementary school at San Joaquin, Calif., by the C. S. Merriam Co., of Fresno. The fuel to be used is butane, adopted because of its economy, heating qualities that are superior to other fuels and the insurance of better health conditions in the school rooms because of the use of automatic controls that regulate the room temperatures.

Build Your Profits on this Load Builder



Assure yourself of added income by recommending Blodgett ovens. They will use any of the various butane-propane gases at an actual saving to the purchaser. Every restaurant, hotel, camp, bakery, etc., is a definite prospect.

Known the World Over for Quality Since 1848

For nearly 100 years Blodgett Ovens have been noted for their quality. When you sell a Blodgett you have sold more than an appliance—you have sold a unit in which you, as well as the purchaser, can take a justifiable pride, for the name Blodgett is to ovens what the word sterling is to silver. When ordering, please specify B.t.u. content of the gas, its specific gravity and pressure at the appliance.

THE G. S. BLODGETT COMPANY, INC.

53 Maple Street, Burlington, Vt.

BLODGETT OVENS

NOTES

Rudolph Wagner, Truck Fuels, Inc., Los Angeles, was on the program for a talk on liquefied petroleum gas at the convention of the Western Burner and Oil Distributors Association in Oakland, Calif., on September 15.

•

The Tom Daily Store, Washington, Ind., has been appointed agent for Skelgas and appliances adapted for use with L. P. G. fuel.

•

The Clymore Co., Inc. is the parent organization of several South Texas refineries and bulk stations. These are located at Refugio, Edinburg, Sandy Point, Agua Dulce and Corpus Christi. According to R. S. Wyrick, general superintendent, the company has not made any change in distributors and dealers since entering the commercial butane field four years ago.

•

John Housenga, owner of the Housenga Appliance and Furniture Store, has been appointed agent for the Bupane Gas Co. in Owatonna, Minn.

•

The Carr Hardware Co., Ames, Iowa, is giving demonstrations by appointment for gas appliances adapted for use with liquefied petroleum gas. This store is the local distributor for Philgas.

•

Galley & Molloy, dealers for Hydro-Gas systems in Tahlequah, Okla., have started a liquefied petroleum gas sales campaign which has for its avowed object the installation of a gas plant in every home in Cherokee County.

•

H. L. Sampson has taken the agency for a line of L. P. G. appliances and for butane gas in Olton, Texas.

•

The Automatic Butane Gas Co. has its main office at 2901 South Main Street, Houston, Texas, and a branch office at Kemah, on the main LaPorte-Texas City highway.

Robert J. Canniff, executive in the gas appliance field for the past 18 years, has joined Servel, Inc. as sales promotion manager — gas, it is announced by H. S. Boyle, sales promotion manager of the company. His headquarters will be in Evansville, Ind., where he will assist in promotional activities in the urban field where the Servel Electrolux gas refrigerator is marketed. Mr. Canniff went to Servel from the Ruud Manufacturing Co., Pittsburgh. From 1934 to 1936 he was with the Pittsburg Water Heater Corp., as general sales manager. He was western sales manager for the Standard Gas Equipment Corp., of Chicago, from 1926 to 1934. Mr. Canniff was the first chairman of the water heater division of the Association of Gas Appliance and Equipment Manufacturers, and is a member of the Advisory Council of that body.

•

Charles Ballard and **Ray Young** have opened a butane gas office at Fort Morgan, Colo. The Eato Metal Co., Denver, will supply the new firm with tanks for underground storage installations.

•

Charley Douglas, manager of DuLaney's, Guthrie, Okla., is putting on a special campaign to acquaint residents of Logan county with the advantages of butane gas for all household purposes. His firm is the agent for the Chambers range, Pittsburg water heater and Ward floor furnaces.

•

The G. H. Bondahl Co. has been appointed distributor for Skelgas in Westbrook, Minn. Gas appliances and cylinders of the liquefied petroleum gas will be carried in stock at all times.

•

Schramling & Irwin have recently installed a propane gas system in the plant of the Vici, Okla., *Beacon* to furnish heat for melting the metal for the linotype machine.

•

H. V. Lambert, Le Grand, Calif., has opened a display and storage room in his home where he will conduct a sales and service department for appliances adapted for use with butane gas.

•

A. B. Meyer, agent for Skelgas appliances in Warren, Ill., and exhibiting at the local fair in August, instituted a plan of accept-

ing written bids upon a 1940 Skelgas range which was sold to the highest bidder. This method created unusual interest and permitted bids to be made by many parties who would not have been able to be present at any given time for the usual form of auction.

•

The Aline Hospital, at Aline, Okla., has installed a butane plant for general heating and cooking purposes.

•

P. A. Smith, of Pine Bluff, Ark., has been made the distributor for Butane Gas Co. in southeastern Arkansas. He will also handle L. P. G. appliances.

•

Moellenbrock & Wilke celebrated their fourth year as dealers for Shellane bottled gas in Washington, Mo., during August. During the observance of the event a mixmaster was given free with every range purchased. A full line of L. P. G. appliances is also carried.

•

Daniels Brothers have been named new Philgas dealers in Terre Haute, Ind. They also operate stores in Rosedale and Dana, Ind., and have been in business since 1925.

E. K. Watson was recently made representative for the Illinois Bottled Gas Co. in Monticello, Ill., and opened a display room and office under the name of the Watson Dri-Gas Service. Assisting at the opening ceremonies, which were attended by residents of Monticello and surrounding areas, were Frank Schroeder, district representative for the Illinois Bottled Gas Co., and Bernie Eddings, who is associated with the Verner B. Thompson Dri-Gas retail store at Springfield, Ill. A photo of the Watson store is shown below.

•

The Lyon Gas Appliance Co., of Owatonna, Minn., held a three-day cooking school in August under the direction of Mrs. Sally Sandison to acquaint local residents with advantages of using liquefied petroleum gas for cooking purposes.

•

Delbert Ware has taken on the agency for Shellane liquefied petroleum gas in Salem, Mo. He will handle it from the Ware Electric and Radio Shop, where gas appliances are also carried, and his territory will include Dent and Texas counties.

The newly-opened display room of the Watson Dri-Gas Service, Monticello, Ill., E. K. Watson, proprietor, and representative of the Illinois Bottled Gas Co.

Autobiography of *Joe Pipp*

MY name is Joseph Wesley Pipp. I am 16 years old, 6 ft. tall, and so far as I know I have never been sick in my life. I lied to the local liquefied petroleum gas company to get a job, for I told them I was 20. I have a cowlick where most young fellows part their hair, freckles which combine in restraint of beauty on my nose which is plain brown and I don't trip when I walk, like a thoroughbred; I just stumble along. All this makes me as hot as pepper.

I quit school the other day to get an education. I couldn't do any good there trying to remember what somebody else said or did and when he said or did it. Instead of going to school that morning, I went by the warehouse of the gas company, walked up to the construction gang foreman (or I thought he was the foreman, but he happened to be the manager for that town) and asked for a job. He asked me what I could do, and I told him right there that I could do anything any other man he had could do. He said that I was big enough, plenty strong, looked "clean" and I could start to work anytime I could get a release from my parents. I told him I was 20 and he said, "Well, maybe you are, but you look sort of 'sappy' for 20 years old, and I don't mind a kid lieing about his age if he wants a job bad enough."

Well, after a big argument with my daddy, and a long heart-to-heart talk with my mother, I got the release. Neither liked the idea of my going to work; they wanted me to go through school and then college, but I, big, gawky boy like I am, would have had to commit murder several times to get through grammar school and play football if I went to college, and that was the argument I made to my mother. So now I am starting into the gas business, having told the manager that my name is Joe Pipp. No middle name, no nothing but Joe Pipp. He sort of smiled and said, "Your parents surely put one on you, Joe." So now you will find me with the liquefied petroleum gas company, construction department, apprentice helper.

E. ROY TAYLOR

• **E. Roy Taylor, Georgia Automatic Gas Co., of Atlanta, Ga., and secretary of Southern Butane Dealers, Inc., sometimes spends his evenings in recounting the experiences of mythical (?) "Joe Pipp," aspirant to a successful career in the liquefied petroleum gas industry. Whether the expression of personal reminiscences, or otherwise, we have no way of knowing, but in any event they contain more than a grain of sound philosophy that men in the gas industry may easily apply to the problems that confront every organization in its contact with the public and in building personnel. Would you enjoy reading more about Joe and his adventures? Tell us, and we will pass the word along.—Editor.**

My First Day

I think a lot of the boss, as I call the manager. He shows up on the job before anybody else has had his breakfast. He says he is just "smelling around." He never rawhides, or cusses us or makes us feel bad when there is anybody else present. He usually drops a hint, or asks us a simple question and gets us to talk. My foreman says the boss can spot a mistake or a defect behind a concrete wall; he likes the boss, too, and told us boastingly that the boss could "smell a bad job."

My first day was pretty hard. The sun shone down on me right much, and my hands got sore, but I didn't grumble about it. The foreman told me to watch and not get too hot. I think I am going to like this whole outfit, because every one of them is trying to do a good job. I hope I can hold out and make a good hand and learn as much, maybe, as the boss knows. I put my shovel down with the edge up and the boss told me, "Turn it over, son; it might bite somebody." I had never thought of that. There's a lot I don't know about this business.

Here I Am In the Hospital

Well, here I am in the hospital and you wouldn't know how easy it is to get in a hospital unless you happen on it accidentally, as I did. You see, the gang was digging out a leak in the high-pressure main. The foreman said it was a pretty big leak and the crew was digging it out. I had been set to flag the street and along came a fellow to watch what we were doing. He came up to the hole, looked at the boys a minute and then pulled out a cigarette and a match. I didn't have any words, so I just grabbed him and when I did he shook me off and hit me. I don't remember much after that, but the foreman told the man he might have blown us all up, striking a match when there was so much escaping gas. Anyhow, there is nothing the matter with me except a bump on my head where I hit the curb and my hand sprained and a few bruised places on me about the size of cocoanuts. The boss brought me some flowers and thanked me for my thoughtfulness. Shucks, I didn't think, and there is where the joke is on him.

I Learn to Appreciate Flowers

I have written about the flowers that the boss brought to the hospital when I was tied up there. Well, Mother and the boss got to talking about flowers and the boss said cut-flowers were the easiest kind to buy; that usually he paid a lot more for much less, because the most valuable flowers were usually where the construction gang dug or threw their tools. Now I always thought flowers were sort of "sissy stuff" but I got a big lump in my throat listening to Mother and the boss talking about lilac bushes and moss roses and things that they remembered of the flowers on the old home places. And I remembered that our gang was sort of careless about throwing tools around and walking on consumers' premises, and I made up my mind right there that if I ever got to be foreman of a gang, I would caution the boys; and I would do better than that — I would talk to the owner of the place and fix things up to suit him so the boss wouldn't be bothered about such things. I have seen folks get mighty mad about a little old

touch-me-not and I thought they were crazy, but I reckon after you have dug and planted and tended a plant and watched it grow and bloom, you feel different about it.

Aunt Lucy Changes Her Mind

The foreman told us the other morning: "Boys, you had better watch your step, because we are working in front of Mrs. Cahill's today and I'll bet she tries to stop us."

Mrs. Cahill is my Aunt Lucy, but I didn't tell the foreman. I know she is sort of fussy and particular, and she did just what the foreman said she would. She said the gas company ought to be run out of town for tearing up the streets like they were.

About that time she spied me and said, "Joe, what in the world are you doing here?" I told her the gas company was giving me a trial for a job and that these boys were all fine fellows, "working like you and Uncle John to make the town a better place to live." And I told her the boss said it was time to move out of a town when they quit tearing up the streets, for the town had quit growing. And I added, "Aunt Lucy, you are going to have a lot better gas service when we get through, for we are putting in a new main."

She walked off sort of huffy and we began work. You could have knocked my eyes off with a feather when I saw Aunt Lucy and her maid, about quitting time, with a big pitcher of lemonade and a tray of cake. Aunt Lucy walked right up to the foreman and told him, "That little upstart, Joe, started me to thinking, and I'm glad all you boys have work, and I beg your pardon for being so fussy this morning. I just baked you a cake to make up for my bad humor." The foreman swallowed hard a couple of times and said, "Boys, let's give her a hand."

Aunt Lucy's eyes looked a little misty and she came over to me, put her hand on my shoulder and told me she was proud of me. I was always a little afraid of her until then and I just thought, "Here Aunt Lucy's been a good sport all this time and nobody knew it." I'll bet our gang could dig her whole front yard up and she wouldn't say a word!

I Am Promoted

After my experience with Aunt Lucy a day or two ago, the boss came over to the gang, called the foreman off and told him to bring me to the office along about quitting time. When the foreman passed the word to me I just thought, "There goes my job." The boss was in great good humor, shook the foreman's hand and then took mine and said, "Son, if I could make you public relations director, I would do it; but I am putting you on regularly as helper on consumers' premises. I believe you can make good."

I didn't know then what it was all about, but I thanked him and told him I would try. The boss went on to say that Aunt Lucy was like all the rest of us; we didn't consider the other fellow very much. He said if the employes took the trouble to explain to the people just what the gas company was trying to do, showing an earnest effort to give the very best they had, full measure "pressed down and running over," we could fire all the attorneys and public relations directors and live

in peace and contentment forever.

"You know," said the boss (and he got right enthusiastic), "this anti-utility feeling among the people resulted from natural causes. We were slam-banging, hell-roaring down the road, getting the last penny for indifferent service and hiring high-priced talent to try to justify it." Then the boss added, "When you have to hire a lawyer to explain your case to the public you are in bad shape."

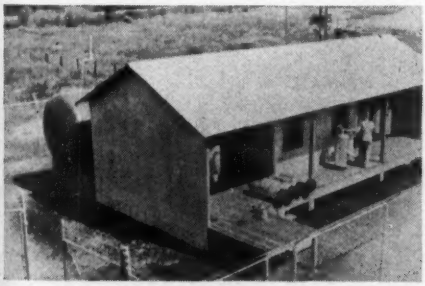
I got a pretty big job in front of me now trying to make good on this promotion. Now my name is Joe Pipp, Helper, Consumers' Premises.

■ ■

Oneida Gas Co.'s Bulk Plant Opens at Rhinelander, Wis.

The Oneida Gas Co., Rhinelander, Wis., completed its new propane bulk plant in July, according to Charles G. Grau, manager. It consists of a 17,000-gal. holder, charging room, pump house and unloading dock. The plans for the plant were furnished by the Phillips Petroleum Co. and the construction was under the direction of D. B. Byers, of the Philgas Department of the same company.

The first tank car of propane was received July 15, and by the first week in August another car was ordered, due to rapidly expanding business. (Photo of plant below.)



Recently completed bulk plant of Oneida Gas Co., Rhinelander, Wis.

PRODUCTS

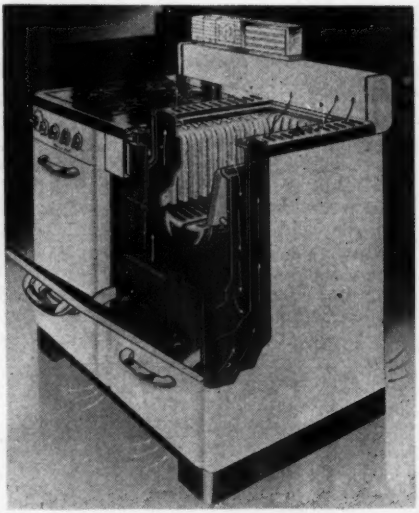
Ignition Coil

Elsbert Manufacturing Co., Inc., Chicago, Ill.
Model: Grigsby Ultra-High Frequency Ignition Coil.
Description: Power is increased through use of this coil because with vastly increased current output, complete combustion of fuel mixture is assured, due to high frequency alternating current developing a relatively large amount of ozone at the spark plug electrodes which makes the fuel mixture highly combustible. Economy is gained because in every case colder spark plugs can be used with no danger of fouling, for increased ignition output together with long spark duration insures more complete combustion and leaner fuel mixtures may be used with further improvement in economy and without loss of performance. Better performance results because increased horsepower, a direct result of increased ignition current, means smoother idling, better pickup, and less shifting of gears on hills.

■ ■

Gas Range

Round Oak Co., Dowagiac, Mich.
Model: Round Oak Miami Range, Bungalow Type.
Description: This is a gas range that may also be used as a room heater, and serves as a double purpose unit for both heating and cooking. In addition to full cooking service, which includes a four-burner cooking top (double-action, Multi-Speed simmer top burners), full size four-way oven insulated with spun-glass, and a complete Rollo smokeless broiler, the Miami provides a coal side cooking top, a convenient place to burn refuse, and a very efficient circulating heater which keeps a kitchen warm on coldest winter days. A copper reservoir for heating water may be installed behind or at the side of range, providing a convenient source of warm water whenever heating section is in use. The cabinet base extends fully to the floor, is provided with ample toe-room and, on the coal end section, provides a confining chamber for incoming cool air to the heater circulating chamber. Operation is similar to that of a modern warm air heating plant. Two vertical flues receive cold air from openings in the rear of the cabinet base at floor level and from a slot opening in the front of the cabinet base. This air gains heat from the fire box, attains a high velocity and rises quickly into the room through the attractive grills on each side of the coal side cooking top. Heating capacity is sufficient for even the largest of kitchens. As with all other Round Oak ranges, the Miami is accurately factory built for the type of gas specified by the buyer — natural, manufactured, butane, propane or any bottled gas. Burners are all carefully designed and constructed for the most economical operation.



Commercial Oven

The G. S. Blodgett Co., Inc., Burlington, Vt.
Model: B2-15.
Description: The B2-15 Blodgett oven is an ideal one for the small restaurant, dining car or even a small bakery. It is insulated with 3 in. of Fiberglas blanket insulation and equipped with automatic heat control. These ovens are sold for use with propane and butane gas because of their low cost and low operating expense.

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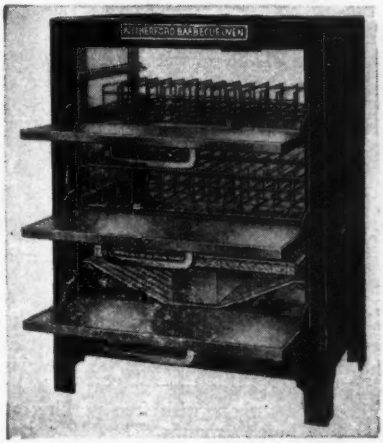


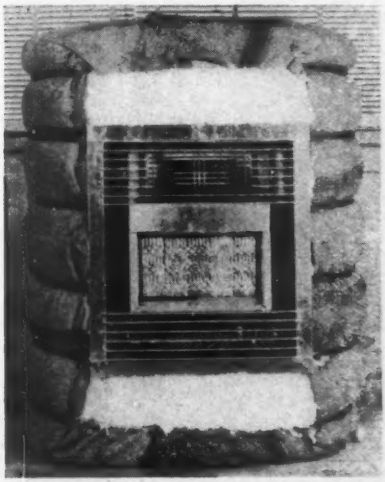
Barbecue Oven

Comstock-Castle Stove Co., Quincy, Ill.
Model: Rutherford Barbecue Oven.
Description: Permits restaurant operators, delicatessen stores and markets to offer genuine barbecued meats prepared in their own kitchens. The patented cooking process saves shrinkages and permits more savings per pound. Two large ovens are of sufficient size to allow roasting or baking any of the following: 60 pork ribs; 16 pork shoulders; 20 chickens; 8 turkeys; 40 broilers; 100 lbs. fish; 16 hams; 100 lbs. roast, or 24 10-in. pies.
Construction: Body — heavy gage steel baked black enamel finish. Triple lined with Therminsul, dead air and steel. Inside linings super-metal rust resisting. Racks — extra heavy chromium plated wire, two to each oven. Oven doors — stainless steel, heavy plated handles, and operating with heat tested coil springs. Rustless steel grease drip pan. Oversize double gas burner.
Dimensions: Height, 49 in.; depth, 25 in.; width, 36 in.; ovens, each, 30x20x11 in. Weight, 500 lbs. Specify kind of gas and B.t.u. content when ordering.

■ ■

Cirklair Gas Heater

The Folsom Co., Dallas, Texas.
Model: CR-6214 Portable Console.
Description: The patented multiple duct principle of this heater induces and controls circulation of heated air, makes it possible to encase it in wooden enclosures without insulation. The accompanying cut shows heater encased in bale of cotton to illustrate fact that metal parts of heater remain at very low temperature. Heater has no moving parts; maintains comfortable all-over-room temperature with exceedingly small fuel consumption. Made in many models and sizes, including other consoles, bathroom heaters, fireplace inserts, wall heaters, miniature mantels and inset units for installation in corner cabinets, book nooks, staircases, sham mantels, etc.
Dimensions: (Model CR-6214) Cabinet height, 34 in.; width, 34 in.; thickness, 9½ in. Size, 14 burners, with capacity of 35,000 B.t.u.



Butane Equipment's Location Has High Advertising Value

Charlie Clark and Mack Garvin, partners in the operation of Butane Equipment Co., are located at the corner of University Drive and West Vickery Blvd., three miles west of the downtown section of Fort Worth, Texas, and believe they are ideally located to conduct a liquefied petroleum gas business.

Their company, formed in November, 1938, and now serving 350 butane installations, has headquarters on a main highway which runs beside the two largest parks in the Southwest. In fact, the headquarters office is located midway between these two parks, Trinity Park and Forest Park. The Botanic Garden in one of the parks is just 200 yards removed from their quarters and the other park is located a short distance in the opposite direction.

Thousands of people pass the establishment in a double stream of traffic, and since the office is located in the only building between the two parks, the bill-board advertising value, alone, amounts to hundreds of dollars annually. Many of those who pass are rural prospects and customers who come to the parks for the day and to visit the nearby zoo. Quite a few bring their lunches, and Butane Equipment Co., with ample space in the pecan grove surrounding their building, provides them with free parking space and free lunch grounds. They have had as many as 100 cars at a time utilizing the free privileges of the grounds, and incidentally view the window displays.

Farrington Field, Fort Worth's public school stadium, Casa Manana, famous outdoor open air show house of the Southwest, and Texas Christian University stadium are attractions located at the same end of town. These further advance the traffic flow by their place of business.

Mack Garvin maintains an independent business, a bicycle and scooter rental business and outdoor cold drink stand, next door to the butane business. This was established in 1933. W. W. Wilson operates it. This business is an additional drawing card for the locality.

The 24-hours-a-day butane service which the company provides has meant more to their success than any other single factor according to the partners. Recently they have been selling the Yurown system.

Wisconsin Bottled Gas Co. Makes Dealer Calls in Airplane

The Wisconsin Bottled Gas Co., Medford, Wis., has introduced the novel method of making dealer visits in an airplane, and V. T. Miller, general manager, who has but recently returned from the initial trip, states that he believes this new plan is highly productive of valuable publicity for the company and the products it handles. Painted in large letters on the airplane is the name of the company, a boost for bottled gas, and the

Airplane used by Wisconsin Bottled Gas Co. to visit dealers and publicize products.

name of Acorn ranges, for which the company is distributor in its territory.

A photograph of the tail of the airplane, bearing the company's advertising, is above.

■ ■

Dallas Tank & Welding Co. Now Filling Texas Dealer Orders

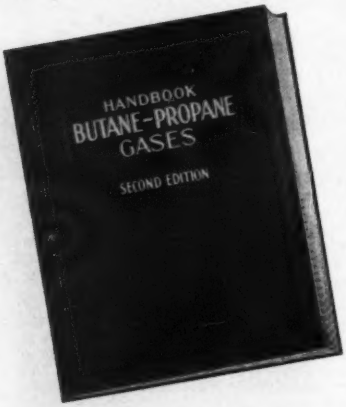
W. W. Banks, Dallas Tank & Welding Co., Inc., of Dallas, Texas, announces the construction of a 12,500-gal. butane storage tank for Spiller & Miller, of Austin, Texas. The tank is now going through the manufacturer's plant and will be delivered to the purchasers around October 10. The tank is to be erected on the outskirts of Austin, in which territory the firm sells the Economy butane system.

Butane Gas Co., Fort Worth, E. B. Stroud, president, is another purchaser of a tank from this same firm. This tank, of 3000-gal. capacity and 125 lbs. working pressure, has already been erected at Fort Worth, where Butane Gas Co. sells the Champion butane system, a system manufactured for him by Dallas Tank & Welding Co.

Handbook

BUTANE-PROPANE GASES

(Revised November, 1938)



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BUTANE-PROPANE *News*

810 South Spring Street, Los Angeles, Calif.

Eveready Gas Equipment Co. To Handle Butane Systems

Eveready Gas Equipment Co. has been formed at Little Rock, Ark., to manufacture and distribute the Eveready Butane Gas System. Fred Schneider, formerly associated with one of the distributors of butane systems in Houston, Texas, is general manager of the company.

The Eveready system will be manufactured in the steel plant of Arkansas Foundry Co. of Little Rock. This company has been manufacturing pressure vessels for more than 30 years. The system will be distributed in the Southwest through a dealer organization. Headquarters of the company are being maintained at 1501 East 6th St., Little Rock.

■ ■

W. F. Cathcart, Former A.G.A. Man, Becomes Robertshaw Agent

W. F. Cathcart, formerly connected with the American Gas Association Laboratory in Cleveland, has joined the Robertshaw Thermostat Company as Cleveland representative.

Mr. Cathcart is a graduate of the Case School of Applied Science. His first year after college was spent as a sales engineer with the Continental Rubber Works, after which he joined the staff of the American Gas Association Laboratory, where he worked in the range, water heater, space heater, chemical and research departments.

■ ■

F. H. Greenwoood Erects 3412-Gal. Butane Bulk Plant in Texas

F. H. Greenwood, Butane Gas Sales Co., of Denton, Texas, completed the erection about the middle of September of a 3412-gal. butane bulk plant two miles north of Denton on highway 77. Mr. Greenwood launched his business in January, 1937, and now is servicing 275 installations, mostly domestic. The main office of the company is in Denton, with a branch office in Gainsville. The company handles the Yurown system, made in Dallas.

RESEARCH

• BUTANE-PROPANE *News* wishes to keep its readers informed regarding technical and practical advances concerning research, manufacture, development, and transportation in the liquefied petroleum gas field. In this column will be found a resume of recently published articles, papers, bulletins and books dealing with the industry's various phases.

Balloon System Prevents Vapor Losses —J. C. Albright. *Refiner*, July, 1939, pp. 291-294. Describes system used by Shell at Dominguez, Calif., which prevents vapor loss in tank storage. The system consists of a steel balloon with flexible decks, connected to the tanks with a large pipe line with a low coefficient of friction to enable the vapors to travel from tank to tank, or from all the tanks to the balloon, or from the balloon to the tanks. Included in this system are facilities for repressuring the entire system, when conditions are such that no one tank or group of tanks produce sufficient vapors to fill the voids in other tanks. Dry gas is used for this purpose, secured from the refinery vapor-recovery system or from pipe lines. If conditions exist that vapors are produced by the products in the steel storage tanks, these vapors travel through the interconnecting pipe line system to the balloon, which has a capacity of 350,000 cu. ft. If a greater volume of vapors is produced from the products in the tanks than the capacity of the balloon, an automatic compression recovery unit takes the surplus, converting the vapors to liquids that are in turn stored in other steel pressure vessels and subsequently used as required in the refinery.

Engine Combustion Research — *Automotive Industries*, July 15, 1939, pp. 63, 64. This article is an abstract of a paper presented at the World Automotive Engineering Congress by T. A. Boyd of the General Motors Research Laboratories Division, and is a review of a long research on engine combustion carried out in the General Motors Laboratories. The investigation was concerned chiefly with knock, but an extension of knowledge of knock-free combustion was also aimed at.

Welded Pipe Joints—*Mechanical Engineering*, July, 1939, pp. 543, 544. Since there are differences of opinion regarding groove design, detailed welding procedure, methods of inspection, and heat-treatment subsequent to welding of joints, R. W. Clark, engineer, G. E. Company, carried out two sets of tests to clear up these various points. This paper is published in full in the January, 1939, issue of *The Welding Journal* and is abstracted in this journal in length with diagrammatic sketches.

Effect of Heat Storage and Variation in Outdoor Temperature and Solar Intensity on Heat Transfer Through Walls —J. S. Alford, J. E. Ryan, and F. O. Urban. *Heating, Piping and Air Conditioning*, July, 1939, pp. 461-472. This paper presents a practical method for calculating the heat flow into the interior space as a function of the thermal properties of the wall, the surface coefficient, and the variable quantities of outdoor temperature and solar intensity when the wall structure is homogeneous. The solution to this problem was worked out by members of an advanced course in engineering. Although this paper gives no new experimental data, the accuracy of the method may be demonstrated by using data of Houghton et al where the tests include not only measured rates of heat flow but also records of outdoor air temperature and pyrheliometer measurements of solar intensity.

Liquid Hydrocarbons from Recycled Reservoir Gas—William H. Vaughan. *GAS*, July, 1939, pp. 36, 37. The recovery of liquefied hydrocarbons of natural gas from comparatively high pressure reservoirs is now being accomplished as a result of the practical use of retrograde condensation range of the desired constituents at the reduced temperature. In some cases, the expansion of the gas from initial pressure to the final pressure may produce sufficient cooling to condense the desired constituents. This article is an extended abstract only, but covers subject.

Anchoring Underground Storage Tanks Buried in Wet Ground—James O. G. Gibbons. *Chemistry and Metallurgy*, July, 1939, p. 434. It is often necessary to bury fuel-oil and other tanks in wet ground, in which case there is always the danger that when empty, the tanks will float, thus causing a lot of expensive trouble. Obviously, the remedy is to weight the tanks down, or anchor them to a heavy foundation. Of course, there is no real difficulty in calculating the amount of anchorage required, but the writer has found the method given to be a satisfactory one which will insure absolutely reliable results.

Cooperative Fuel Research Motor-Gasoline Survey, Winter 1939—1939, by E. C. Lane.

125-Octane Gasoline—*Mechanical Engineering*, July, 1939, p. 510. According to an article in *Business Week* for June 3, 1939, a petroleum research laboratory has succeeded in producing for $50 a gallon a new fuel with a 125-octane rating that when first discovered cost $3600 to make. The best anti-knock hydrocarbon fuel hitherto on the market is iso-octane with a rating of 100 which sells now in large lots for 50 cents a gallon. Three years ago it cost $25 a gallon. Used in the new high-compression aircraft engines, the 100-octane fuel increases climbing rate about 30 per cent and speed about 25 per cent as compared to the performance of 87-octane gasoline. It is expected that the new 125-octane fuel will attain commercial importance when it can be sold for $1 a gallon since it shows 50 per cent greater power output than does iso-octane. As yet there is no engine which can operate commercially on 125-octane gasoline; but chemical engineers are doing their part to produce it cheaply and mechanical engineers are working on special metals and designs which will meet the problems of higher compression, higher engine temperatures, and cooling.

Economics of Catalytic Polymerization of Butanes—F. B. Mack. *Oil and Gas Journal*, May 4, 1939, pp. 60, 62, 64. Low finished gasoline prices have prevented wider adoption of gas polymerization by refiners. A 40 per cent yield of polymer gasoline is obtained by thermally cracking recovered butanes, and catalytically polymerizing the cracked gases. Blend of cracked distillate of 66 octane number, natural gasoline and polymer gasoline gave 72 octane number fuel in which blending of polymer was 95. Blends with straightrun and other gasolines give polymer blending values up to 102. In the process, 62 per cent of the normal butane and 44 per cent of isobutane are recovered from natural gases. These butanes are cracked, 1000 barrels per day in a furnace, and polymerized at about 400° F., with 1500 barrels per day of recycle. Estimates of the cost of polymer production must include ½c per gallon royalty, and ½c to ¾c for catalyst, along with the cost and operation of the butane concentration equipment and of the polymerizer unit.

Hydrogen Sufide Removal System—J. M. Mullen. *Petroleum World*, March, 1939, pp. 63, 80. 82. Tripotassium Phosphate porcess operates successfully in new plant. Flow diagram illustrates simplicity of design and operation. Typical daily operating statement given. Also in *California Oil World*, 1st March issue, 1939.

Modern Fire Fighting—J. R. Howcroft. *Journal Society Chemical Industry*, April 15, 1939, pp. 323-329. Describes use of vaporizing liquid, carbon dioxide, foams, etc., used in fire fighting.

Pressure Vessel Welding—*Industry and Welding*, July, 1939, pp. 32-33. This article gives the detail of the construction of a storage pressure vessel 17 ft. in diameter by 35 ft. long, designed for a working pressure at 80 lb. p. s. i. The vessel was constructed entirely by welding and was erected in the field 96 miles from the point of fabrication.

RALPH G. ABBOTT

Ensign Carburetor Co., Ltd., Announces Personnel Changes

Personnel changes by Ensign Carburetor Co., Ltd., have been announced recently.

Robert R. Wyker, who has been assistant to the president, will, in addition to his other duties, assume the position of sales manager, making his headquarters at the main office in Huntington Park, Calif. Mr. Wyker has been with the Ensign organization for the past five years. He attended Pratt Institute in Brooklyn, N. Y., until 1917, when he entered the U. S. Army, ordnance department, and attained the rank of second lieutenant. After leaving the service he was associated with the General Electric and affiliated companies, and prior to joining the Ensign organization was engineer for the Union Metal Co. at Los Angeles.

Ralph G. Abbott has been appointed manager of the Dallas branch. He graduated from the University of Michigan in 1930, and previous to his association with the Ensign organization was connected with the engineering staff of the Marvel Carburetor Co. of Flint, Mich., and was sales engineer for Pierce Governor Co., Anderson, Ind.

Roy Mylander, formerly in the Dallas territory on sales work, will be in charge of field service, with headquarters at the factory. His duties will include the compiling of information that will be of help to the users of Ensign equipment every place.

R. H. Jennings Visits the West To Study Bulk Installations

The use of liquefied petroleum gas for domestic purposes is increasing rapidly in the Texas Panhandle, according to a statement by R. H. Jennings, proprietor of the Household Appliance Stores, with headquarters in Canyon, Texas. Mr. Jennings made a several weeks' trip of investigation to the Pacific Coast in August and September to study town plants and other large installations and to contact Western manufacturers of appliances and equipment designed for use with L. P. G.

The Household Appliance Stores have branches in Vega, Hereford, Tulia and Dimmitt at this time, with a display room and salesman at Amarillo, and a display with the Gaines-Elliott Hardware Store in Bovina. Panhandle will have a branch soon, and possibly within the year Amarillo may be made the main distributing point. Most of the company's business to date has been in the rural communities. Dallas Tank & Welding Co.'s Economy butane plants are handled exclusively. A shipment of two carloads, 28 systems, arrived in late August, with most of them contracted for in advance.

The Household Appliance Stores are distributors in their territories for Skelgas, and obtain their supplies of gas directly from the Schaeffer unit of the Skelly Oil Co. refinery at Skellytown.

■ ■

Butane Equipment Co., Inc. Will Distribute Century Carburetors

The formation of the Butane Equipment Co., Inc. for the exclusive national distribution of Century Carburetors was completed in Los Angeles early in September, according to an announcement made by the president of the organization, H. H. Josephs.

J. H. Snodgrass will take part in the active work of the company and will be secretary-treasurer. Associated with the organization are T. L. Wall, J. W. Orcutt, and N. E. Benson.

In addition to acting as national distributors for the Century Carburetor, the Butane Equipment Co., Inc. will be actively employed in the installation of butane service stations and storage tanks. Their most recently completed job is the Carl Newman service station, 1339 E. 7th St., Los Angeles.

The Union Gas & Equipment Co. booth at the Colorado State Fair last month.

Union Gas & Equipment Conducts Sales School at Colorado Fair

Union Gas & Equipment Corp., of Pueblo, Colo., distributor of the Automatic Gas System for the state of Colorado, conducted a school for salesmen of the system in conjunction with its exhibit at the Colorado State Fair held in Pueblo from August 28 to September 1, inclusive. Jerry Walker, sales manager of Automatic Gas Equipment Corp. of Dallas, conducted the school, which assembled in the exhibit booth of the company at the Fair from 8 to 10 each morning.

The sales course covered the fundamentals of salesmanship as well as fundamental facts about liquefied petroleum gas fuel and about the Automatic Gas System. The course also included sales demonstrations of the system by Mr. Walker and private demonstrations by each of the salesmen taking the course.

Union Gas & Equipment Corp. conducted a free drawing in conjunction with its exhibit. Each person entering the booth was given the opportunity to fill in a numbered coupon card calling for his name and address, facts about home ownership, whether gas was used in the home, etc.

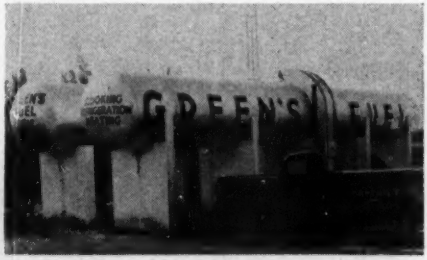
The three prizes awarded at the drawing held on the last day were $25, $15, and $10 down payment on underground Automatic Gas Systems. More than 200 of those registering at the booth did not have gas service.

There were 110,000 paid admissions at the Fair. The Automatic system was advertised by loudspeaker to these people, many of whom visited the booth shown in the picture.

Green's Fuel, Inc., Places Orders For Six Bulk Storage Tanks

Green's Fuel, Inc., Sarasota, Fla., announces the signing of a contract with the Tampa Shipbuilding & Engineering Co. for the construction of six large liquefied petroleum gas bulk storage tanks for storing Green's Fuel, and similar to the ones shown in photo below.

This is the first of several contracts to be released during the remainder of the year,



Typical bulk storage tanks of Green's Fuel, Inc., and similar to six more now on order.

according to Kenneth H. Koach, general manager. These tanks will be 40 ft. in length, 8 ft. in diameter, and built according to A. S. M. E. specifications. Mr. Koach states that, as soon as completed, the new tanks will be erected at Gainesville, Wauchula, and Winter Haven, and will be supplementary to the present bulk storage plant equipment existing in many sections of the state.

■ ■

Must Have L.P.G. License In Texas or Pay Penalty

The Gas Utilities Division of the Railroad Commission of Texas has recently sent out a special notice to all persons engaged in the liquefied petroleum gas industry in Texas to remind them that September 19 was the last day for obtaining licenses under the act passed by the State legislature last spring. This act, known as House Bill No. 792, provides that after September 19 no handler or dealer in equipment or liquefied petroleum gas can continue activities until he has filed a bond and secured his license, with heavy penalties accruing to those who disobey.

Pyramid Equipment & Sales Co. Formed by Gilbert Woodill

Formation of the Pyramid Equipment & Sales Co. is announced by Gilbert Woodill, to manufacture and sell carburetors and fuel regulators for the use of natural gas in power units and stationary engines. These same carburetors and a combination vaporizer and fuel regulator for the use of liquefied petroleum gas (butane-propane) are also available for such engines.

Mr. Woodill is president and general manager and Karl Westlund is vice president and chief engineer of the company. Both men were associated with the Ensign Carburetor Co. for approximately 10 years, and are well-known in the industry.

The Pyramid Equipment & Sales Co. is located at 2305 East Eighth Street, in Los Angeles.

■ ■

Eastern Section Fall Meeting Will Be Largely Social

The Fall meeting of the Eastern Section of the L.P.G.A. will be devoted largely to social activities this year. No business sessions are scheduled and no program of talks has been arranged. The tentative date is October 9 and the place is Vail's Grove, Peach Lake, located about four miles from Brewster, N. Y., and seven miles from Danbury, Conn.

Sports events will occupy much of the day's festivities. There will be a clam bake "with all the trimmings," a soft ball contest, golf, swimming, boating, and other entertainment.

Officers of the Eastern Section are H. W. Richdale, chairman, and W. L. Hauck, secretary.

■ ■

Midwest Section Meeting Held In Des Moines, Iowa

The Midwest Section meeting of the Liquefied Petroleum Gas Association was held in Des Moines, Iowa, on September 25-26, under the chairmanship of Kenneth R. D. Wolfe.

The meeting was opened by an address by the Association's president, J. Woodward Martin, and was followed by speakers on the industry's problems through the two days.

California Natural Gasoline Ass'n. Annual Meeting November 17

THE annual fall meeting of the California Natural Gasoline Association will be held on Friday, November 17, at the Ambassador Hotel, Los Angeles, according to a joint announcement by President P. S. Magruder, Program Chairman Walter Dayhuff, and Harry Fiske, chairman of the entertainment committee.

The full day's program follows:

9:30 A. M. Morning Session

President's Address—P. S. Magruder, General Petroleum Corp.

Technical Session—W. W. Robinson, chairman, C. N. G. A. Technical Committee, The Texas Co.

C. N. G. A. Liquefied Gas Standards, J. S. Gallagher, The Texas Co.

"Advances in Analytical Fractionation Technique," W. J. Podbielniak.

"The Centrifugal Super-Contactor," W. J. Podbielniak.

2:00 P. M. Afternoon Session

"Alkylation"—Speaker to be announced later.

"Role of Natural Gasoline Plant Products in Motor Fuels of the Future," C. C. Moore, Union Oil Co.

"Natural Gas Conservation and Utilization in California," Roy M. Bauer, Southern California Gas Co.

7:00 P. M. Evening Session

Annual Association Banquet and Show.

■ ■

Hydro-Gas Bulk Storage Plant Installed at West Plains, Mo.

Jack H. Ellsworth of the Hydro-Gas Co. has announced the completion of a bulk storage plant one mile northwest of West Plains, Mo.

This new station will supply users in West Plains and the surrounding districts with liquefied petroleum gas that will be shipped in from Oklahoma on large transport trucks.

L. P. G. Distributors Form Local Association in Iowa

Several distributors of liquefied petroleum gases met in Des Moines, Iowa, in August and organized the Independent Bottled Gas Association. It was formed to promote the industry and to enable the members to maintain a closer contact with markets. The member firms are pledged to exchange marketing methods and as a group to study means for lowering costs of installing household units and other facts that will permit an individual and collective betterment of current practices.

Officers of the association are: Otto Kohl, Cedar Rapids, Iowa, president; Rufus W. Scott, Des Moines, vice president; I. L. Tucker, Cedar Rapids, secretary-treasurer; Fred C. Fisher, Jr., Cedar Rapids, counsel. The directors are Mr. Kohl, Mr. Tucker, Mr. Scott and G. F. Bursinger, St. Paul.

Those who attended the organizational meeting were: Rufus W. Scott and Charles Russell, Thermogas Co., Inc., Des Moines; Marion Munn and F. Rashleigh, Blau Gas Co., Omaha, Neb.; Leland Harms, Harms Oil Co., Allison, Iowa; Otto Kohl and Clark Van Meter, Bupane Gas Co., Cedar Rapids, Iowa; I. L. Tucker and Ernest W. Curtin, Rapid Gas Corp., Cedar Rapids; G. F. Bursinger, Northwest Blau Gas Co., St. Paul, and James A. Leach, Bottled Gas Corp., Davenport, Iowa.

■ ■

Southern Steel Co. Acquires All Interests of Hydro-Gas Co.

Announcement was made in late August that Southern Steel Co., San Antonio, Texas, has acquired all the interests of the Hydro-Gas Co., also of San Antonio. Both of these concerns have been operating for many years and have featured the underground type of systems for liquefied petroleum gas uses.

Hydro-Gas systems are now being shipped into 22 different states from the San Antonio plant, but arrangements are being made to establish branch manufacturing plants in several trade centers in other states to reduce the excessive transportation costs that result from shipping entirely from San Antonio.

D. F. Youngblood is president of Southern Steel, and L. J. White is vice president. M. E. McKay, formerly president and general manager of the Hydro-Gas Co., will continue in sales promotion work with Southern Steel.

Champion Spark Plug Co., Detroit, Will Use Butane for New Kiln

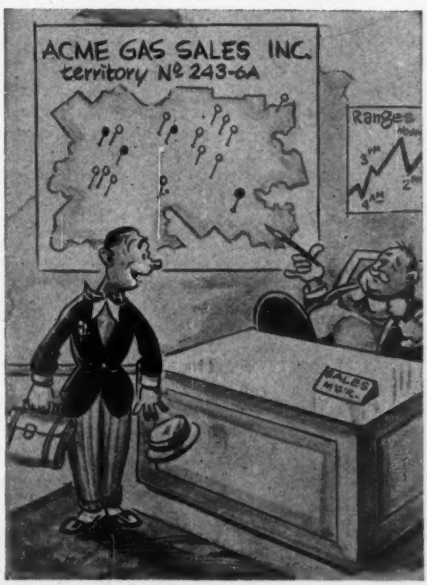
For four months during every year butane gas will be used by the Champion Spark Plug Co., Ceramic Division, Detroit, in a new continuous decorating kiln that will begin operations this fall. During the other eight months of the year natural gas will be used.

It is expected that the new kiln will result in a more flexible charging as to variety of sizes, a considerable saving in fuel and labor, greater output capacity, smoother production and fewer rejections.

WHO WILL BE NEXT?

For accepted and published captions to the "Dotted Line Roscoe" Cartoon, published below, BUTANE-PROPANE *News* will pay $5.00. Address, 810 South Spring Street, Los Angeles, Calif. This month's winner is Paul B. Wagner, Ohio Fuel Gas Co., Fostoria, Ohio.

Dotted Line Roscoe



Get some autographs on orders, or don't come back.

ADVERTISERS

Chemical, Technical Dictionary Contains 25,000 Definitions

The *Standard Chemical and Technical Dictionary*, containing more than 25,000 definitions of words used by technicians, engineers and scientists, has but recently been published by the Chemical Publishing Co., Inc., of 148 Lafayette St., New York City. Bound in cloth, printed on durable paper, with subject words in bold-face, the book has 638 pages and sells for $10.

It has been compiled by H. Bennett, Fellow of the American Institute of Chemists, Fellow of the American Association for the Advancement of Science, member of many chemical and technical societies, author and editor of technical works. It covers industrial products, pure chemicals and trade names; abbreviations, contractions, symbols used in mathematics, chemistry thermodynamics, pharmacy, and many other subjects. A special section is devoted to the explanation and proper naming of the organic compounds, with the rules for the nomenclature of the organic compounds clearly stated and supplemented by prefix names of the organic radicals. Complete cross references are used and matter of a similar nature is grouped together.

Back of the dictionary's publication is a long accumulating need for a reference book that would bring up to date the uses and applications of words that have resulted from the rapid advances made in the chemical and technical fields, and that have arisen from the popularization of many trade names. All in all, it is invaluable for those who are concerned with chemical and technical occupations and has innumerable references of interest to those engaged in the natural, manufactured and liquefied petroleum gas industries.

■ ■

Blaugas Company Exhibited At Minnesota State Fair

The Northwestern Blaugas Co., St. Paul, Minn., featured its August-September exhibit at the Minnesota State Fair with displays which proclaimed that the cost of using liquefied petroleum gas for cooking is but "one cent per person per meal."

For advertising purposes and to build good will, the Blaugas Co. gave away metal tongs for handling hot kitchen utensils.

two POINTS OF CONTROL
IN VERIFYING CUSTOMER DELIVERIES

- **Meter Registered Records**
- **Unerring Customers' Receipts**
- **Direct Error-proof Readings**
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- **Smooth Roller-type Printer**

In the handling of liquefied petroleum gas, Brodie Meters render a service that is truly unsurpassed. The Brodimatic Counter . . . together with the Brodimatic Printer . . . place a check and double check on every moving gallon. High distance-spanning visible-readings—tamper-proof recordings—plus other outstanding Brodie Meter features and advantages provide verified error-proof deliveries and verified protective records. Ask for full details.

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WIN A BIGGER SHARE OF YOUR MARKET WITH

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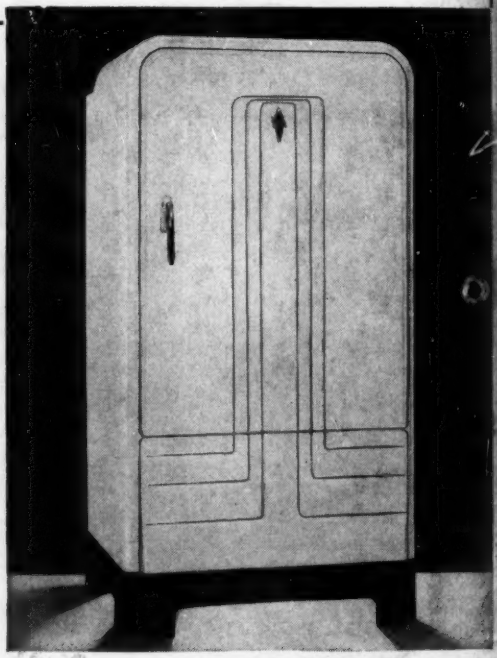
Servel Electrolux Operates on Tank or Bottled Gas

YOU will find that there are plus-profits for your business in selling Servel . . . for not only can you build a steady income with this refrigerator for suburban and rural markets, but you'll find it gets folks interested in the use of other gas appliances.

Servel Electrolux refrigeration—in more than a million homes—has won an enviable reputation with its silent freezing with *no moving parts,* continued low operating cost, its added years of dependable service and savings that pay for it.

Keep pace with the rapidly growing liquefied petroleum gas industry thru gas refrigeration. Servel's national magazine and radio advertising and powerful dealer backing will help you sell. Servel, Inc., Servel Electrolux Sales Div., Evansville, Indiana.



GAS REFRIGERATION—

- **Publicizes the Modernity of Gas**
- **Protects Your Present Gas Load**
- **Stimulates the Sales of Other Gas Appliances**
- **Builds Load without Extra Investment**

The **SERVEL** **ELECTROLUX** *Gas Refrigerator*

FREEZES SILENTLY...WITH NO MOVING PARTS